GenCore version 5.1.6

OM nucleic - nucleic search, using sw model

Run on: September 23, 2003, 23:11:13 ; Search time 579 Seconds
(without alignments)
9818.681 Million cell updates/sec

Title: US-09-856-327-1
Perfect score: 2106
Sequence: 1 atcagccatgtctctctcaa.....aaaaaaaaaaaaaaaaaaaa 2106

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 2552756 seqs, 1349719017 residues

Total number of hits satisfying chosen parameters: 5105512

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : N_Geneseq_19Jun03:*
1: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1980.DAT:*
2: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1981.DAT:*
3: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1982.DAT:*
4: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1983.DAT:*
5: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1984.DAT:*
6: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1985.DAT:*
7: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1986.DAT:*
8: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1987.DAT:*
9: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1988.DAT:*
10: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1989.DAT:*
11: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1990.DAT:*
12: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1991.DAT:*
13: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1992.DAT:*
14: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1993.DAT:*
15: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1994.DAT:*
16: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1995.DAT:*
17: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1996.DAT:*
18: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1997.DAT:*
19: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1998.DAT:*
20: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA1999.DAT:*
21: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2000.DAT:*
22: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2001A.DAT:*
23: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2001B.DAT:*
24: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2002.DAT:*
25: /SIDS1/gcgdata/geneseq/geneseqn-embl/NA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2106	100.0	2106	22	AAF99980	Nucleotide sequenc
2	212.4	10.1	1869	22	AAC87519	Trametes hirsuta p
3	212.4	10.1	1995	22	AAC87518	Trametes hirsuta p
4	208.6	9.9	1869	17	AAT34420	Pyranose oxidase e
5	175.6	8.3	1902	21	AAZ46411	Pleurotus cornucop
6	152.6	7.2	1701	20	AAV83626	Nucleic acid encod
7	129	6.1	1946	21	AAA71487	T. matsutake pyran
8	129	6.1	1946	21	AAA07403	Trichoderma derive
9	94.4	4.5	4639	22	AAS45962	Human DNA encoding
10	94.4	4.5	4640	21	AAC78483	Human PRO708 (UNQ3
11	94.4	4.5	4640	25	ACA57720	Human PRO708 cDNA.
12	94.4	4.5	4640	25	ABX98190	Human cDNA encodin
13	94.4	4.5	4640	25	ABX98692	Novel human secret
14	94.4	4.5	4640	25	ACA05737	Human secreted/tra
15	94.4	4.5	4640	25	ABX97781	Human PRO polynucl
16	94.4	4.5	4640	25	ABX78565	Human PRO polynucl
17	94.4	4.5	4640	25	ABX75578	Human cDNA encodin
18	94.4	4.5	4640	25	ABX76783	Human PRO polynucl
19	94.4	4.5	4640	25	ABX16623	Human cDNA encodin
20	94.4	4.5	4649	25	ABX92359	cDNA encoding huma
21	94.4	4.5	4650	20	AAZ33987	Human PRO708 nucle
22	93.8	4.5	552	23	ABV56513	Human prostate exp
c 23	92.6	4.4	269	23	ABV07492	Human prostate exp
24	92.2	4.4	488	23	ABV58909	Human prostate exp
25	91.8	4.4	2440	22	AAH34932	Human colon cancer
26	91.6	4.3	485	23	ABV55622	Human prostate exp
27	91.6	4.3	2323	19	AAV59524	Human secreted pro
28	91.6	4.3	2323	24	ABS73511	Human cDNA #1 for
29	91.4	4.3	1480	22	AAD07771	Human secreted pro
30	91.2	4.3	2091	24	AAL50827	Human cancer statu
31	91.2	4.3	2710	21	AAA54132	Breast cancer prot
32	91.2	4.3	2964	24	ABK70015	cDNA encoding huma
33	91	4.3	422	23	ABV54507	Human prostate exp
34	90.8	4.3	1327	24	AAD24775	Glycine max ankyri
35	90.8	4.3	1565	25	ACC00654	Argemone mexicana
36	90.6	4.3	1992	22	AAF72748	Human prostate can
37	90.6	4.3	2537	25	ABV76135	Coxsackievirus rec
38	90	4.3	198	23	ABV19260	Human prostate exp
39	90	4.3	400	23	ABV58615	Human prostate exp
40	90	4.3	481	23	ABV56248	Human prostate exp
41	90	4.3	579	23	ABV57511	Human prostate exp
42	89.6	4.3	374	22	AAI91055	Human polynucleoti
43	89.6	4.3	1046	24	AAS63134	Cell death protect
44	89.6	4.3	2260	22	AAI97914	Human neuroblastom
45	89.6	4.3	2260	22	AAI98068	Human neuroblastom

ALIGNMENTS

RESULT 1
AAF99980
ID AAF99980 standard; cDNA; 2106 BP.
XX
AC AAF99980;
XX
DT 20-JUL-2001 (first entry)
XX
DE Nucleotide sequence encoding Lyophyllum shimeji antibacterial protein.
XX
KW Fungus; antibacterial; antibiotic; plant pathogen; bacterial infection;
KW Pyricularia orizae; Rhizoctonia solani; rice pathogen; ss.
XX
OS Lyophyllum shimeji.
XX
FH Key Location/Qualifiers
FT CDS 8..1864
FT /*tag= a
FT /product= "antibacterial protein"
XX
PN WO200121657-A1.
XX
PD 29-MAR-2001.
XX
PF 20-SEP-2000; 2000WO-JP06404.
XX
PR 21-SEP-1999; 99JP-0267238.
XX
PA (NISB) JAPAN TOBACCO INC.
PA (NORQ) SOC TECHNO-INNOVATION AGRIC FORESTY & FI.
XX

PI Takakura Y, Kuwata S, Inoue Y;
XX
DR WPI; 2001-281598/29.
DR P-PSDB; AAB97035.
XX
PT Antibacterial protein and encoded gene isolated from Lyophyllum
PT shimeji, with activity against plant pathogenic bacteria, applicable in
PT agriculture e.g. rice cultivation at low concentration, produced at low
PT cost on large scale
XX
PS Claim 12; Page 38-42; 52pp; Japanese.
XX
CC The present sequence encodes an antibacterial protein from the fungus
CC Lyophyllum shimeji. The protein was obtained from a fraction prepared
CC by extracting Lyophyllum shimeji with water and subjecting the extract
CC to ammonium sulphate precipitation. The protein inhibits the growth
CC of the plant pathogenic bacteria Pyricularia orizae and Rhizoctonia
CC solani at a relatively low concentration. P. orizae and R. solani are
CC causative of the two major diseases of rice. The protein contains
CC components of 70 kDa and 65 kDa, as determined by SDS-PAGE.
CC The antibacterial protein can be produced at low cost on a large scale.
XX
SQ Sequence 2106 BP; 593 A; 540 C; 527 G; 446 T; 0 other;

Query Match 100.0%; Score 2106; DB 22; Length 2106;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 2106; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy       1 ATCAGCCATGTCTCTCTCAACCGAGCAGATGCTACGCGACTATCCACGGTCTATGCAAAT 60
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1 ATCAGCCATGTCTCTCTCAACCGAGCAGATGCTACGCGACTATCCACGGTCTATGCAAAT 60

Qy      61 CAACGGACAGATTCCTAAGAACGCAATTCACGAAACATACGGAAACGACGGAGTTGATGT 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      61 CAACGGACAGATTCCTAAGAACGCAATTCACGAAACATACGGAAACGACGGAGTTGATGT 120

Qy     121 ATTCATTGCAGGATCTGGACCCATTGGAGCGACGTATGCAAAGCTCTGTGTTGAAGCTGG 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     121 ATTCATTGCAGGATCTGGACCCATTGGAGCGACGTATGCAAAGCTCTGTGTTGAAGCTGG 180

Qy     181 TCTACGTGTTGTGATGGTCGAGATCGGAGCTGCTGATAGCTTCTACGCTGTTAATGCCGA 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     181 TCTACGTGTTGTGATGGTCGAGATCGGAGCTGCTGATAGCTTCTACGCTGTTAATGCCGA 240

Qy     241 AGAAGGAACTGCAGTTCCCTACGTTCCTGGCTACCACAAGAAGAATGAAATCGAGTTCCA 300
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     241 AGAAGGAACTGCAGTTCCCTACGTTCCTGGCTACCACAAGAAGAATGAAATCGAGTTCCA 300

Qy     301 GAAAGATATTGACCGCTTCGTCAATGTAATCAAGGGAGCCTTACAACAAGTCTCTGTTCC 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     301 GAAAGATATTGACCGCTTCGTCAATGTAATCAAGGGAGCCTTACAACAAGTCTCTGTTCC 360

Qy     361 TGTCAGAAACCAGAACGTGCCTACACTTGATCCCGGAGCCTGGAGCGCGCCCCCTGGAAG 420
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     361 TGTCAGAAACCAGAACGTGCCTACACTTGATCCCGGAGCCTGGAGCGCGCCCCCTGGAAG 420

Qy     421 TTCAGCCATATCGAACGGTAAAAATCCTCACCAGCGGGAATTCGAGAACTTGTCTGCGGA 480
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     421 TTCAGCCATATCGAACGGTAAAAATCCTCACCAGCGGGAATTCGAGAACTTGTCTGCGGA 480

Qy     481 GGCCGTAACGCGTGGAGTCGGCGGCATGAGTACCCACTGGACGTGCTCCACGCCACGGAT 540
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     481 GGCCGTAACGCGTGGAGTCGGCGGCATGAGTACCCACTGGACGTGCTCCACGCCACGGAT 540

Qy     541 TCATCCACCCATGGAAAGTCTCCCGGGCATCGGCCGTCCGAAGCTCAGTAACGACCCGGC 600
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     541 TCATCCACCCATGGAAAGTCTCCCGGGCATCGGCCGTCCGAAGCTCAGTAACGACCCGGC 600

Qy     601 AGAGGACGACAAAGAGTGGAACGAGCTTTATTCCGAGGCCGAGCGTCTCATCGGGACTTC 660
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     601 AGAGGACGACAAAGAGTGGAACGAGCTTTATTCCGAGGCCGAGCGTCTCATCGGGACTTC 660

Qy     661 CACCAAGGAATTCGACGAGTCAATTCGGCACACCCTTGTTCTGCGCTCTTTGCAAGACGC 720

Db     661 CACCAAGGAATTCGACGAGTCAATTCGGCACACCCTTGTTCTGCGCTCTTTGCAAGACGC 720

Qy     721 GTACAAGGATCGTCAACGTATCTTTCGCCCTCTCCCGTTGGCATGCCACCGGTTGAAGAA 780
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     721 GTACAAGGATCGTCAACGTATCTTTCGCCCTCTCCCGTTGGCATGCCACCGGTTGAAGAA 780

Qy     781 CGCGCCGGAATACGTCGAATGGCACTCAGCAGAAAATCTTTTCCACTCTATCTACAACGA 840
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     781 CGCGCCGGAATACGTCGAATGGCACTCAGCAGAAAATCTTTTCCACTCTATCTACAACGA 840

Qy     841 TGACAAGCAGAAGAAGCTCTTTACCCTGCTGACGAACCATCGCTGCACACGACTGGCGCT 900
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     841 TGACAAGCAGAAGAAGCTCTTTACCCTGCTGACGAACCATCGCTGCACACGACTGGCGCT 900

Qy     901 TACGGGCGGGTATGAGAAGAAGATTGGCGCTGCCGAGGTCAGGAATCTACTGGCCACCAG 960
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     901 TACGGGCGGGTATGAGAAGAAGATTGGCGCTGCCGAGGTCAGGAATCTACTGGCCACCAG 960

Qy     961 GAATCCTAGTTCGCAGCTGGACAGCTATATCATGGCGAAGGTATATGTACTGGCGTCGGG 1020
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     961 GAATCCTAGTTCGCAGCTGGACAGCTATATCATGGCGAAGGTATATGTACTGGCGTCGGG 1020

Qy    1021 AGCGATCGGCAACCCACAGATTCTCTATAACTCGGGCTTCTCTGGGCTACAGGTCACGCC 1080
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1021 AGCGATCGGCAACCCACAGATTCTCTATAACTCGGGCTTCTCTGGGCTACAGGTCACGCC 1080

Qy    1081 ACGCAATGACTCGTTGATCCCCAACCTGGGGAGGTACATCACGGAGCAGCCGATGGCATT 1140
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1081 ACGCAATGACTCGTTGATCCCCAACCTGGGGAGGTACATCACGGAGCAGCCGATGGCATT 1140

Qy    1141 TTGCCAGATAGTCTTGAGGCAGGAATTCGTCGACAGCGTGCGCGACGATCCTTATGGACT 1200
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1141 TTGCCAGATAGTCTTGAGGCAGGAATTCGTCGACAGCGTGCGCGACGATCCTTATGGACT 1200

Qy    1201 GCCATGGTGGAAAGAAGCCGTTGCTCAACATATTGCCAAGAACCCGACAGATGCACTGCC 1260
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1201 GCCATGGTGGAAAGAAGCCGTTGCTCAACATATTGCCAAGAACCCGACAGATGCACTGCC 1260

Qy    1261 CATTCCGTTCCGCGATCCGGAACCCCAGGTAACAACCCCATTTACAGAAGAACACCCCTG 1320
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1261 CATTCCGTTCCGCGATCCGGAACCCCAGGTAACAACCCCATTTACAGAAGAACACCCCTG 1320

Qy    1321 GCACACGCAGATTCACCGCGATGCTTTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTC 1380
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1321 GCACACGCAGATTCACCGCGATGCTTTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTC 1380

Qy    1381 TCGTGTCATCGTCGACCTGCGCTGGTTTGGCGCAACCGACCCTGAAGCAAACAACCTTTT 1440
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1381 TCGTGTCATCGTCGACCTGCGCTGGTTTGGCGCAACCGACCCTGAAGCAAACAACCTTTT 1440

Qy    1441 GGTTTTCCAGAACGATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATATCG 1500
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1441 GGTTTTCCAGAACGATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATATCG 1500

Qy    1501 ACCCAGCACTGCGTCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTGGC 1560
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1501 ACCCAGCACTGCGTCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTGGC 1560

Qy    1561 GAGCAACTTGGGAGGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTTGC 1620
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1561 GAGCAACTTGGGAGGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTTGC 1620

Qy    1621 ACTTCATCTTGCGGGGACTACTCGCATTGGCTTCGACAAGGCAACTACAGTGGCTGATAA 1680
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1621 ACTTCATCTTGCGGGGACTACTCGCATTGGCTTCGACAAGGCAACTACAGTGGCTGATAA 1680

Qy    1681 CAACTCGCTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATCAGGAC 1740
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    1681 CAACTCGCTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATCAGGAC 1740

Qy    1741 GGGCTTCGGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCGAGGAG 1800
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```

```
Db       1741 GGGCTTCGGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCGAGGAG 1800

Qy       1801 CATCATCAATACACTCAAGGGTGGGACTGACGGAAAAAATACAGGCGAGCATCGCAACCT 1860
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1801 CATCATCAATACACTCAAGGGTGGGACTGACGGAAAAAATACAGGCGAGCATCGCAACCT 1860

Qy       1861 TTGAGGAAGGAGCAACAGCAGTGTAAACAAACGCGTCAAGTGGCTACTTCAAGTTGAATG 1920
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1861 TTGAGGAAGGAGCAACAGCAGTGTAAACAAACGCGTCAAGTGGCTACTTCAAGTTGAATG 1920

Qy       1921 CATTCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTAC 1980
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1921 CATTCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTAC 1980

Qy       1981 TGAACCTGTACTTTGTCTGAATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAAAA 2040
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       1981 TGAACCTGTACTTTGTCTGAATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAAAA 2040

Qy       2041 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2100
             ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       2041 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2100

Qy       2101 AAAAAA 2106
              ||||||
Db       2101 AAAAAA 2106
```

RESULT 2
AAC87519

ID AAC87519 standard; DNA; 1869 BP.
XX
AC AAC87519;
XX
DT 13-MAR-2001 (first entry)
XX
DE Trametes hirsuta pyranose oxidase cDNA, SEQ ID NO:1 (version 2).
XX
KW Pyranose oxidase; expression construct; recombinant production;
KW monosaccharide oxidation; 2-keto derivative;
KW hydrogen peroxide production; ss.
XX
OS Trametes hirsuta.
XX
PN US6146865-A.
XX
PD 14-NOV-2000.
XX
PF 05-MAY-1999; 99US-0305381.
XX
PR 08-JUN-1998; 98DK-0000774.
PR 10-JUN-1998; 98US-0088724.
XX
PA (NOVO) NOVO NORDISK AS.
XX
PI Schneider P, Christensen S, Lassen SF;
XX
DR WPI; 2001-049055/06.
DR P-PSDB; AAB48832.
XX
PT Novel nucleic acid molecule encoding polypeptide having pyranose
PT oxidase activity used to design oligonucleotide probes to identify and
PT clone DNA encoding the polypeptide from different genera or species -
XX
PS Claim 2; Column 25-28; 20pp; English.
XX
CC The invention relates to nucleic acids (e.g., AAC87518, AAC87519) which
CC encode Trametes hirsuta pyranose oxidase (AAB48832). The invention also
CC relates to expression constructs, expression vectors and recombinant
CC cells comprising pyranose oxidase nucleic acid sequences, and the
CC recombinant production of Trametes hirsuta pyranose oxidase. Pyranose
CC oxidase catalyses the oxidation of several monosaccharides in the
CC pyranose form at position C2 to produce 2-keto derivatives with the
CC release of hydrogen peroxide. Nucleic acids encoding Trametes hirsuta
CC pyranose oxidase may be used to produce the enzyme and to design
CC oligonucleotide probes to identify and clone genomic pyranose oxidase
CC cDNA or genomic DNA from different genera or species of microorganisms
CC (fungi or bacteria). The present sequence represents a cDNA encoding
CC pyranose oxidase from the fungus Trametes hirsuta.
CC Note: Both AAC87518 and AAC87519 are Trametes hirsuta pyranose oxidase
CC cDNA sequences which contain the entire open reading frame (ORF).
CC However, the two sequences have different stop codons - AAC87518 has an
CC opal stop codon while AAC87519 has an amber stop codon.
XX
SQ Sequence 1869 BP; 397 A; 622 C; 548 G; 302 T; 0 other;

Query Match 10.1%; Score 212.4; DB 22; Length 1869;
Best Local Similarity 51.5%; Pred. No. 3.2e-25;
Matches 841; Conservative 0; Mismatches 656; Indels 135; Gaps 10;

```
Qy        269 GGCTACCACAAGAAGAATGAAATCGAGTTCCAGAAAGATATTGACCGCTTCGTCAATGTA 328
              |||| |||||||||||      |||||| |||||| | || |||   ||||| |||||
Db        259 GGCTCACACAAGAAGAACACCGTCGAGTACCAGAAGAACATCGACAAATTCGTAAATGTT 318

Qy        329 ATCAAGGGAGCCTTACAACAAGTCTCTGTTCCTGTCAGAAACCAGAACGTGCCTACACTT 388
              ||  | ||     |    |  ||||| || || ||||  |    |  |||    || ||
Db        319 ATACAAGGGCAACTTATGCCCGTCTCGGTGCCCGTCAACACGATGGTCGTTGACACGCTA 378

Qy        389 GATCCCGGAGCCTGGAGCGCGCCCCCTGGAAGTTCAGCCATATCGAACGGTAAAAATCCT 448
                || |   | |||   ||  |  |       |    | |    |||||    |||||
Db        379 AGCCCGGCGTCATGGCAAGCTTCGACG------TTCTTCGTCCGCAACGGGGCGAATCCA 432

Qy        449 CACCAGCGGGAATTCGAGAACTTGTCTGCGGAGGCCGTAACGCGTGGAGTCGGCGGCATG 508
              | ||        |    ||| |   ||   |||| || || || |  ||||||||||||
Db        433 GAGCAAGACCCGCTGCGCAACCTTAGTGGCCAGGCGGTCACCCGCGTCGTCGGCGGCATG 492

Qy        509 AGTACCCACTGGACGTGCTCCACGCCACGGATTCATCCACCCATGGAAAGTCTCCCGGGC 568
                ||| ||||||||||| | ||||| ||  |  |    |    |
Db        493 TCTACGCACTGGACGTGCGCGACGCCGCGCTTCGAGAAGCTGCAG--------------- 537

Qy        569 ATCGGCCGTCCGAAGCTCAGTAACGACCCGGCAGAGGACGACAAAGAGTGGAACGAGCTT 628
                |||  | |    | |  |||||| |    | |||||||   |||||| ||  |||
Db        538 ---CGCCCGCTGCTCGTGAAGAACGACTCCAAGGCGGACGACGCCGAGTGGGACAGGCTC 594

Qy        629 TATTCCGAGGCCGAGCGTCTCATCGGGACTTCCACCAAGGAATTCGACGAGTCAATTCGG 688
              ||     ||||||||     | ||  |||   |||  |   | ||||  ||||||  || ||
Db        595 TACAAGAAGGCCGAGTCGTACTTCAAGACCGGCACGACCCAGTTCGCCGAGTCGATCCGC 654

Qy        689 CACACCCTTGTTCTGCGCTCTTTGCAAGACGCGTACAAGGATCGTCAACGTATCTTTCGC 748
              |||| ||| || ||          |||| || | ||||||||    |    ||   ||| |
Db        655 CACAACCTCGTGCTCAAGAAGCTGCAGGAGGAGTACAAGG---GCGTGCGCGACTTCCAG 711

Qy        749 CCTCTCCCGTTGGCATGCCACCGGTTGAAGAACGCGCCGGAATACGTCGAATGGCACTCA 808
              |  ||||| | ||        ||   ||        |||   | ||||| |||  |||
Db        712 CAGATCCCGCTCGCGGCGACGCGCCAGA------GCCCGACGTTCGTCGAGTGGAGCTCG 765

Qy        809 GCAGAAAATCTTTTCCACTCTATCTACAACGATGACAAGCAGAAGAAGCTCTTTACCCTG 868
              ||  | |   | ||            ||||  | || |   |  |  |    |  |
Db        766 GCGCACACCGTGTT--------------CGATCTCGAGAACCGGCCGAACAAGGACGCG 810

Qy        869 CTGACGAACCATCGCTGCACACGACTGGCGCTTACGGGCGGGTATGAGAAGAAGATTGGC 928
              | || | |    | |      |  || |  || ||  | | | || |    | |
Db        811 CCGAAGCAGCGCTTCAACCTCTTCCCCGCCGTCGCGTGCACGAACGTGAGGCGCGATAAC 870

Qy        929 GCTGCCGAGGTCAGGAATCTACTGGCCACCAGGAATCCTAGTTCGCAGCTGGACAGCTAT 988
              ||   |  ||  |        ||||    | |  | |       |     |  || |
Db        871 GCGAACTCGGAGATCGTAGGCCTGGATGTCCGCGACCTCCACGGGGGCAAGAGCATCACC 930

Qy        989 ATCATGGCGAAGGTATATGTACTGGCGTCGGGAGCGATCGGCAACCCACAGATTCTCTAT 1048
              |||| ||| ||||| ||  | ||  |  | || ||| ||  |||| | ||| | |||
Db        931 ATCAAGGCCAAGGTGTACATCCTCACCGCCGGCGCGGTCCACAACGCGCAGCTCCTCGCG 990

Qy       1049 AACTCGGGCTT-------CTCTGGGCTACAGGTCACGCCACGCAATGAC--TCGTTGATC 1099
              ||| || ||       ||  |   | | |  ||||| ||     |  ||  || |
Db        991 GCCTCTGGATTCGGGCAGCTGGGTCGTCCCGACCCCGCCAAGCCGCTGCCGTCTCTGCTG 1050

Qy       1100 CCCAACCTGGGGAGGTACATCACGGAGCAGCCGATGGCATTTTGCCAGATAGTCTTGAGG 1159
```

```
Db       1051 CCGTACCTGGGGACCCACATCACCGAGCAGACGCTCGTCTTCTGCCAGACCGTCATGAGC 1110

Qy       1160 CAGGAATTCGTCGACAGCGTGCGCGACGATC---------------------------- 1190

Db       1111 ACGGAGCTCATCAACAGTGTCACCGCGGATATGACCATTGTCGGCAAGCCCGGCCACCCG 1170

Qy       1191 -----------------------------------CTTATGGACTGCCATGGTGGAAA 1213

Db       1171 GACTATAGCGTCACGTATACCCCGGGCAACCCGAACAACAAGCACCCGGACTGGTGGAAC 1230

Qy       1214 GAAGCCGTTGCTCAACATATTGCCAAGAACCCGACAGATGCACTGCCCATTCCGTTCCGC 1273

Db       1231 GAGAAGGTGAAGAAGCACATGATGGACCACCAGGAGGACCCGCTCCCGATCCCGTTCGAG 1290

Qy       1274 GATCCGGAACCCCAGGTAACAACCCCATTTACAGAAGAACACCCCTGGCACACGCAGATT 1333

Db       1291 GACCCTGAGCCGCAGGTCACCACGCTGTTTCAGGCAACGCACCCATGGCACACCCAGATT 1350

Qy       1334 CACCGCGATGCTTTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTCTCGTGTCATCGTC 1393

Db       1351 CACCGCGACGCCTTCAGCTACGGCGCCGTGCAGCAGAGCATCGACTCGCGGCTCATCGTC 1410

Qy       1394 GACCTGCGCTGGTTTGGCGCAACCGACCCTGAAGCAAACAACCTTTTGGTTTTCCAGAAC 1453

Db       1411 GACTGGCGGTTCTTCGGACGCACCGAGCCCAAGGAGGAGAACAAGCTATGGTTCTCGGAC 1470

Qy       1454 GATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATATCGACCCAGCACTGCG 1513

Db       1471 AAGATCACGGACGCGTACAACCTCCGGCAGCCGACGTTCGACTTCCGCTTCCCCGGGG-- 1528

Qy       1514 TCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTGGCGAGCAACTTGGGA 1573

Db       1529 ----GCCGCGAAGCGGAGGACATGATGACCGACATGTGCGTCATGTCGGCGAAGATCGGT 1584

Qy       1574 GGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTTGCACTTCATCTTGCG 1633

Db       1585 GGATTCCTGCCTGGGTCCTACCCACAGTTCATGGAGCCCGGTCTTGTCCTGCACCTTGGT 1644

Qy       1634 GGGACTACTCGCATTGGCTTCGACAA------GGCAACTACAGTGGCTGATAACAACTCG 1687

Db       1645 GGGACGCACCGCATGGGCTTCGACGAGAAGGCGGACAAGTGCTGCGTCGACACCGACTCA 1704

Qy       1688 CTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATCAGGACGGGCTTC 1747

Db       1705 CGCGTCTTCGGCTTCAAGAACCTCTTCCTCGGCGGCTGCGGGAACATCCCCACCGCGTAC 1764

Qy       1748 GGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCGAGGAGCATCATC 1807

Db       1765 GCCGCGAACCCGACGCTCACCGCAATGTCGCTTGCGATCAAGAGCTGCGAGTACATCAAG 1824

Qy       1808 AATACACTCAAG 1819

Db       1825 AAGAACTTCGAG 1836


RESULT 3
AAC87518
ID   AAC87518 standard; DNA; 1995 BP.
XX
AC   AAC87518;
XX
DT   13-MAR-2001  (first entry)
XX
DE   Trametes hirsuta pyranose oxidase cDNA, SEQ ID NO:1 (version 1).
XX
KW   Pyranose oxidase; expression construct; recombinant production;
KW   monosaccharide oxidation; 2-keto derivative;
KW   hydrogen peroxide production; ss.
XX
OS   Trametes hirsuta.
XX
PN   US6146865-A.
XX
PD   14-NOV-2000.
XX
PF   05-MAY-1999;   99US-0305381.
XX
PR   08-JUN-1998;   98DK-0000774.
PR   10-JUN-1998;   98US-0088724.
XX
PA   (NOVO ) NOVO NORDISK AS.
XX
PI   Schneider P,  Christensen S,  Lassen SF;
XX
DR   WPI; 2001-049055/06.
DR   P-PSDB; AAB48832.
XX
PT   Novel nucleic acid molecule encoding polypeptide having pyranose
PT   oxidase activity used to design oligonucleotide probes to identify and
PT   clone DNA encoding the polypeptide from different genera or species -
XX
PS   Claim 2; Fig 1; 20pp; English.
XX
CC   The invention relates to nucleic acids (e.g., AAC87518, AAC87519) which
CC   encode Trametes hirsuta pyranose oxidase (AAB48832). The invention also
CC   relates to expression constructs, expression vectors and recombinant
CC   cells comprising pyranose oxidase nucleic acid sequences, and the
CC   recombinant production of Trametes hirsuta pyranose oxidase. Pyranose
CC   oxidase catalyses the oxidation of several monosaccharides in the
CC   pyranose form at position C2 to produce 2-keto derivatives with the
CC   release of hydrogen peroxide. Nucleic acids encoding Trametes hirsuta
CC   pyranose oxidase may be used to produce the enzyme and to design
CC   oligonucleotide probes to identify and clone genomic pyranose oxidase
CC   cDNA or genomic DNA from different genera or species of microorganisms
CC   (fungi or bacteria). The present sequence represents a cDNA encoding
CC   pyranose oxidase from the fungus Trametes hirsuta.
CC   Note: Both AAC87518 and AAC87519 are Trametes hirsuta pyranose oxidase
CC   cDNA sequences which contain the entire open reading frame (ORF).
CC   However, the two sequences have different stop codons - AAC87518 has an
CC   opal stop codon while AAC87519 has an amber stop codon.
XX
SQ   Sequence 1995 BP; 437 A; 649 C; 574 G; 335 T; 0 other;

  Query Match            10.1%;  Score 212.4;  DB 22;  Length 1995;
  Best Local Similarity  51.5%;  Pred. No. 3.2e-25;
  Matches  841;  Conservative    0;  Mismatches  656;  Indels  135;  Gaps   10;

Qy        269 GGCTACCACAAGAAGAATGAAATCGAGTTCCAGAAAGATATTGACCGCTTCGTCAATGTA 328

Db        288 GGCTCACACAAGAAGAACACCGTCGAGTACCAGAAGAACATCGACAAATTCGTAAATGTT 347

Qy        329 ATCAAGGGAGCCTTACAACAAGTCTCTGTTCCTGTCAGAAACCAGAACGTGCCTACACTT 388

Db        348 ATACAAGGGCAACTTATGCCCGTCTCGGTGCCCGTCAACACGATGGTCGTTGACACGCTA 407

Qy        389 GATCCCGGAGCCTGGAGCGCGCCCCCTGGAAGTTCAGCCATATCGAACGGTAAAAATCCT 448

Db        408 AGCCCGGCGTCATGGCAAGCTTCGACG------TTCTTCGTCCGCAACGGGGCGAATCCA 461

Qy        449 CACCAGCGGGAATTCGAGAACTTGTCTGCGGAGGCCGTAACGCGTGGAGTCGGCGGCATG 508

Db        462 GAGCAAGACCCGCTGCGCAACCTTAGTGGCCAGGCGGTCACCCGCGTCGTCGGCGGCATG 521

Qy        509 AGTACCCACTGGACGTGCTCCACGCCACGGATTCATCCACCCATGGAAAGTCTCCCGGGC 568

Db        522 TCTACGCACTGGACGTGCGCGACGCCGCGCTTCGAGAAGCTGCAG--------------- 566

Qy        569 ATCGGCCGTCCGAAGCTCAGTAACGACCCGGCAGAGGACGACAAAGAGTGGAACGAGCTT 628

Db        567 ---CGCCCGCTGCTCGTGAAGAACGACTCCAAGGCGGACGACGCCGAGTGGGACAGGCTC 623

Qy        629 TATTCCGAGGCCGAGCGTCTCATCGGGACTTCCACCAAGGAATTCGACGAGTCAATTCGG 688

Db        624 TACAAGAAGGCCGAGTCGTACTTCAAGACCGGCACGACCCAGTTCGCCGAGTCGATCCGC 683
```

```
Qy       689 CACACCCTTGTTCTGCGCTCTTTGCAAGACGCGTACAAGGATCGTCAACGTATCTTTCGC 748
Db       684 CACAACCTCGTGCTCAAGAAGCTGCAGGAGGAGTACAAGG---GCGTGCGCGACTTCCAG 740

Qy       749 CCTCTCCCGTTGGCATGCCACCGGTTGAAGAACGCGCCGGAATACGTCGAATGGCACTCA 808
Db       741 CAGATCCCGCTCGCGGCGACGCGCCAGA------GCCCGACGTTCGTCGAGTGGAGCTCG 794

Qy       809 GCAGAAAATCTTTTCCACTCTATCTACAACGATGACAAGCAGAAGAAGCTCTTTACCCTG 868
Db       795 GCGCACACCGTGTT--------------CGATCTCGAGACCGGCCGAACAAGGACGCG 839

Qy       869 CTGACGAACCATCGCTGCACACGACTGGCGCTTACGGGCGGGTATGAGAAGAAGATTGGC 928
Db       840 CCGAAGCAGCGCTTCAACCTCTTCCCCGCCGTCGCGTGCACGAACGTGAGGCGCGATAAC 899

Qy       929 GCTGCCGAGGTCAGGAATCTACTGGCCACCAGGAATCCTAGTTCGCAGCTGGACAGCTAT 988
Db       900 GCGAACTCGGAGATCGTAGGCCTGGATGTCCGCGACCTCCACGGGGGCAAGAGCATCACC 959

Qy       989 ATCATGGCGAAGGTATATGTACTGGCGTCGGGAGCGATCGGCAACCCACAGATTCTCTAT 1048
Db       960 ATCAAGGCCAAGGTGTACATCCTCACCGCCGGCGCGGTCCACAACGCGCAGCTCCTCGCG 1019

Qy      1049 AACTCGGGCTT-------CTCTGGGCTACAGGTCACGCCACGCAATGAC--TCGTTGATC 1099
Db      1020 GCCTCTGGATTCGGGCAGCTGGGTCGTCCCGACCCCGCCAAGCCGCTGCCGTCTCTGCTG 1079

Qy      1100 CCCAACCTGGGGAGGTACATCACGGAGCAGCCGATGGCATTTTGCCAGATAGTCTTGAGG 1159
Db      1080 CCGTACCTGGGGACCCACATCACCGAGCAGACGCTCGTCTTCTGCCAGACCGTCATGAGC 1139

Qy      1160 CAGGAATTCGTCGACAGCGTGCGCGACGATC---------------------------- 1190
Db      1140 ACGGAGCTCATCAACAGTGTCACCGCGGATATGACCATTGTCGGCAAGCCCGGCCACCCG 1199

Qy      1191 -----------------------------------CTTATGGACTGCCATGGTGGAAA 1213
Db      1200 GACTATAGCGTCACGTATACCCCGGGCAACCCGAACAACAAGCACCCGGACTGGTGGAAC 1259

Qy      1214 GAAGCCGTTGCTCAACATATTGCCAAGAACCCGACAGATGCACTGCCCATTCCGTTCCGC 1273
Db      1260 GAGAAGGTGAAGAAGCACATGATGGACCACCAGGAGGACCCGCTCCCGATCCCGTTCGAG 1319

Qy      1274 GATCCGGAACCCCAGGTAACAACCCCATTTACAGAAGAACACCCCTGGCACACGCAGATT 1333
Db      1320 GACCCTGAGCCGCAGGTCACCACGCTGTTTCAGGCAACGCACCCATGGCACACCCAGATT 1379

Qy      1334 CACCGCGATGCTTTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTCTCGTGTCATCGTC 1393
Db      1380 CACCGCGACGCCTTCAGCTACGGCGCCGTGCAGCAGAGCATCGACTCGCGGCTCATCGTC 1439

Qy      1394 GACCTGCGCTGGTTTGGCGCAACCGACCCTGAAGCAAACAACCTTTTGGTTTTCCAGAAC 1453
Db      1440 GACTGGCGGTTCTTCGGACGCACCGAGCCCAAGGAGGAGAACAAGCTATGGTTCTCGGAC 1499

Qy      1454 GATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATATCGACCCAGCACTGCG 1513
Db      1500 AAGATCACGGACGCGTACAACCTCCGGCAGCCGACGTTCGACTTCCGCTTCCCCGGGG-- 1557

Qy      1514 TCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTGGCGAGCAACTTGGGA 1573
Db      1558 ----GCCGCGAAGCGGAGGACATGATGACCGACATGTGCGTCATGTCGGCGAAGATCGGT 1613

Qy      1574 GGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTTGCACTTCATCTTGCG 1633
Db      1614 GGATTCCTGCCTGGGTCCTACCCACAGTTCATGGAGCCCGGTCTTGTCCTGCACCTTGGT 1673

Qy      1634 GGGACTACTCGCATTGGCTTCGACAA------GGCAACTACAGTGGCTGATAACAACTCG 1687
Db      1674 GGGACGCACCGCATGGGCTTCGACGAGAAGGCGGACAAGTGCTGCGTCGACACCGACTCA 1733

Qy      1688 CTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATCAGGACGGGCTTC 1747
Db      1734 CGCGTCTTCGGCTTCAAGAACCTCTTCCTCGGCGGCTGCGGGAACATCCCCACCGCGTAC 1793

Qy      1748 GGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCGAGGAGCATCATC 1807
Db      1794 GCCGCGAACCCGACGCTCACCGCAATGTCGCTTGCGATCAAGAGCTGCGAGTACATCAAG 1853

Qy      1808 AATACACTCAAG 1819
Db      1854 AAGAACTTCGAG 1865
```

RESULT 4
AAT34420
ID AAT34420 standard; cDNA; 1869 BP.
XX
AC AAT34420;
XX
DT 27-NOV-1996 (first entry)
XX
DE Pyranose oxidase encoding sequence.
XX
KW Pyranose oxidase; glucose; oxidation; glucanose; assay; diabetes;
KW marker; diagnosis; 1,5-anhydro-D-sorbitol; ss.
XX
OS Coriolus versicolor.
XX
PN DE19545780-A1.
XX
PD 13-JUN-1996.
XX
PF 07-DEC-1995; 95DE-1045780.
XX
PR 24-MAY-1995; 95JP-0124835.
PR 07-DEC-1994; 94JP-0304086.
XX
PA (KIKK) KIKKOMAN CORP.
XX
PI Kawai G, Koyama Y, Minamihara T, Nishimura I, Okada K;
PI Suzuki M;
XX
DR WPI; 1996-278990/29.
DR P-PSDB; AAR99628.
XX
PT DNA encoding protein with pyranose oxidase activity at neutral pH -
PT useful for the determination of glucose in body fluids or foods, or
PT 1,5-anhydro-D-sorbitol used as marker for diabetes diagnosis
XX
PS Claim 1; Page 10-13; 22pp; German.
XX
CC The present sequence encodes a protein isolated from Coriolus versicolor,
CC which has the enzyme activity of pyranose oxidase (PO). The PO oxidises
CC glucose to glucosone and has an optimum pH of 7-7.5. It has a mol. wt. of
CC 290000 (determined by gel filtration) and is stable at around 50deg.C.
CC PO can be used for measurement of glucose in, e.g. foods or body fluids,
CC or 1,5-anhydro-D-sorbitol which is an important marker used in the
CC diagnosis of diabetes.
XX
SQ Sequence 1869 BP; 408 A; 601 C; 521 G; 339 T; 0 other;

  Query Match   9.9%; Score 208.6; DB 17; Length 1869;
  Best Local Similarity   50.4%; Pred. No. 1.3e-24;
  Matches 856; Conservative   0; Mismatches 714; Indels 129; Gaps   9;

```
Qy       200 GAGATCGGAGCTGCTGATAGCTTCTACGCTGTTAATGCCGAAGAAGGAACTGCAGTTCCC 259
Db       190 GAGCTCGTCGAAGCCGGTTACAAGGTCGCCATGTTCGACATCGGGGAAATTGACTCTGGC 249

Qy       260 TACGTTCCTGGCTACCACAAGAAGAATGAAATCGAGTTCCAGAAAGATATTGACCGCTTC 319
Db       250 CTGAAGATCGGTGCCCACAAGAAGAACACCGTCGAATACCAGAAGAACATTGACAAGTTT 309

Qy       320 GTCAATGTAATCAAGGGAGCCTTACAACAAGTCTCTGTTCCTGTCAGAAACCAGAACGTG 379
```

```
Db        310 GTGAACGTCATTCAGGGCCAATTGATGTCTGTTTCCGTTCCCGTCAATACCCTCGTGATC 369
Qy        380 CCTACACTTGATCCCGGAGCCTGGAGCGCGCCCCCTGGAAGTTCAGCCATATCGAACGGT 439
Db        370 GACACGCTCAGCCCGACGTCTTGGCAAGCTTCATCG------TTCTTCGTCCGCAATGGC 423
Qy        440 AAAAATCCTCACCAGCGGGAATTCGAGAACTTGTCTGCGGAGGCCGTAACGCGTGGAGTC 499
Db        424 TCGAACCCAGAGCAGGACCCGCTTCGTAACCTCAGTGGTCAGGCGGTCACGCGTGTCGTC 483
Qy        500 GGCGGCATGAGTACCCACTGGACGTGCTCCACGCCACGGATTCATCCACCCATGGAAAGT 559
Db        484 GGAGGCATGTCCACGCACTGGACATGCGCGACACCGCGCTTTGA---------------- 527
Qy        560 CTCCCGGGCATCGGCCGTCCGAAGCTCAGTAACGACCCGGCAGAGGACGACAAAGAGTGG 619
Db        528 --CCGCGAGCAGCGCCCGTTGCTCGTGAAGGACGACCAGGACGCTGACGACGCCGAGTGG 585
Qy        620 AACGAGCTTTATTCCGAGGCCGAGCGTCTCATCGGGACTTCCACCAAGGAATTCGACGAG 679
Db        586 GACCGGCTGTACACCAAGGCCGAGTCATACTTCAAGACCCGGACGGACCAGTTCAAGGAG 645
Qy        680 TCAATTCGGCACACCCTTGTTCTGCGCTCTTTGCAAGACGCGTACAAGGATCGTCAACGT 739
Db        646 TCGATCCGCCACAACCTCGTGCTCAACAAGCTCGCGGAGGAATACAAAGGTCAGCGCGAC 705
Qy        740 ATCTTTCGCCCTCTCCCGTTGGCATGCCACCGGTTGAAGAACGCGCCGGAATACGTCGAA 799
Db        706 TTCCAGCAGATCCCCCTCGCGGCAACGCGTCG---------CAGTCCGACCTTCGTCGAG 756
Qy        800 TGGCACTCAGCAGAAAATCTTTTCCACTCTATCTACAACGATGACAAGCAGAAGAAGCTC 859
Db        757 TGGAGCTCGGCGAACACCGTGTT--------------CGACCTCCAGAACAGGCCGAAC 801
Qy        860 TTTACCCTGCTGACGAACCATCGCTGCACACGACTGGCGCTTACGGGCGGGTATGAGAAG 919
Db        802 ACGGACGCGCCGAATGAGCGCTTCAACCTCTTCCCCGCGGTTGCATGTGAGCGCGTCGTG 861
Qy        920 AAGATTGGCGCTGCCGAGGTCAGGAATCTACTGGCCACCAGGAATCCTAGTTCGCAGCTG 979
Db        862 CGCAACACGTCGAACTCCGAGATCGAGAGTCTGCACATCCACGACCTCATCTCCGGCGAC 921
Qy        980 GACAGCTATATCATGGCGAAGGTATATGTACTGGCGTCGGGAGCGATCGGCAACCCACAG 1039
Db        922 CGCTTCGAAATCAAAGCAGACGTGTTCGTTCTTACAGCCGGGGCGGTCCACAACGCGCAG 981
Qy       1040 ATTCTCTATAACTCGGGCTT------CTCTGGGCTACAGGTCACGCCACGCAATGACTCG 1093
Db        982 CTTCTCGTGAACTCTGGCTTTGGACAGCTGGGCCGGCCGGACCCCGCGAACCCGCCGCAG 1041
Qy       1094 TTGATCCCCAACCTGGGGAGGTACATCACGGAGCAGCCGATGGCATTTTGCCAGATAGTC 1153
Db       1042 TTGCTGCCGTCCCTGCGAAGCTACATCACCGAGCAGTCGCTCGTCTTCTGCCAGACCGTG 1101
Qy       1154 TTGAGGCAGGAATTCGTCGACAGCGTG-----CGCGACGATCCTTATGGACTGCC----- 1203
Db       1102 ATGAGCACCGAGCTCATCGACAGCGTCAAGTCCGACATGATCATCAGGGGCAACCCTGGC 1161
Qy       1204 ------------------------------------------------------ATGG 1207
Db       1162 GATCTGGGGTACAGCGTCACGTACACGCCCGGCGCGGAGACCAACAAGCACCCGGACTGG 1221
Qy       1208 TGGAAAGAAGCCGTTGCTCAACATATTGCCAAGAACCCGACAGATGCACTGCCCATTCCG 1267
Db       1222 TGGAACGAAAAGGTGAAGAACCACATGATGCAGCACCAGGAGGACCCGCTTCCAATCCCG 1281
Qy       1268 TTCCGCGATCCGGAACCCCAGGTAACAACCCCATTTACAGAAGAACACCCCTGGCACACG 1327
Db       1282 TTCGAGGACCCCGAGCCGCAGGTCACCACCTTGTTCCAGCCATCGCACCCGTGGCACACT 1341
Qy       1328 CAGATTCACCGCGATGCTTTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTCTCGTGTC 1387
Db       1342 CAGATTCACCGCGATGCGTTCAGTTACGGCGCGGTGCAGCAAACCATCGACTCACGTCTC 1401
Qy       1388 ATCGTCGACCTGCGCTGGTTTGGCGCAACCGACCCTGAAGCAAACAACCTTTTGGTTTTC 1447
Db       1402 ATCGTCGACTGGCGCTTCTTCGGCCGGACGGAGCCAAAGGAGGAGAACAAGCTCTGGTTC 1461
Qy       1448 CAGAACGATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATATCGACCCAGC 1507
Db       1462 TCGGACAAAATTACGGACACGTACAACATGCCGCAGCCGACGTTCGACTTCCGCTTCCCG 1521
Qy       1508 ACTG---CGTCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTGGCGAGC 1564
Db       1522 GCGGGCCGCACGAGCAAGGAGGCGGAGGACATGATGACCGATATGTGCGTTATGTCGGCG 1581
Qy       1565 AACTTGGGAGGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTTGCACTT 1624
Db       1582 AAGATTGGTGGCTTCCTGCCCGGCTCCCTCCCGCAATTCATGGAGCCCGGTCTTGTCCTT 1641
Qy       1625 CATCTTGCGGGGACTACTCGCATTGGCTTCGAC------AAGGCAACTACAGTGGCTGAT 1678
Db       1642 CACCTCGGTGGTACGCACCGCATGGGCTTCGACGAGCAGGAGGACAAGTGCTGCGTCAAC 1701
Qy       1679 AACAACTCGCTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATCAGG 1738
Db       1702 ACGGACTCGCGCGTGTTTGGCTTCAAGAACCTGTTCCTCGGTGGCTGCGGAAACATTCCC 1761
Qy       1739 ACGGGCTTCGGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCGAGG 1798
Db       1762 ACCGCGTACGGCGCGAACCCGACGCTCACCGCAATGTCGCTCGCGATCAAGAGTTGCGAG 1821
Qy       1799 AGCATCATCAATACACTCA 1817
Db       1822 TACATCAAGAACAACTTCA 1840
```

RESULT 5
AAZ46411
ID AAZ46411 standard; DNA; 1902 BP.
XX
AC AAZ46411;
XX
DT 07-MAR-2000 (first entry)
XX
DE Pleurotus cornucopiae antitumour protein coding sequence.
XX
KW Antitumour; cancer; tumour; treatment; expression; tumour suppressor;
KW p53; pBR; ss.
XX
OS Pleurotus cornucopiae.
XX
PN JP11315096-A.
XX
PD 16-NOV-1999.
XX
PF 07-AUG-1998; 98JP-0236349.
XX
PR 08-AUG-1997; 97JP-0215311.
PR 02-MAR-1998; 98JP-0066176.
XX
PA (NEWF-) NEW FOOD CREATION GIJUTSU KENKYU KUMIAI.
XX
DR WPI; 2000-058170/05.
DR P-PSDB; AAY52700.
XX
PT An antitumour protein derived from Pleurotus cornucopiae and its gene -
PT useful for treatment of cancer including those caused by abnormal
PT expression of cancer inhibitory gene (e.g. p53 and pBR)
XX
PS Claim 9; Page 15-16; 23pp; Japanese.
XX
CC The invention relates to a novel antitumour protein extracted from
CC fruiting bodies of the fungus Pleurotus cornucopiae. The protein and
CC nucleotides encoding it are useful for the treatment of cancer,

```
CC   including those caused by abnormal expression of tumour suppressor
CC   genes such as p53 and pBR. This sequence represents the coding
CC   sequence of the gene encoding the antitumour protein.
XX
SQ   Sequence 1902 BP; 437 A; 556 C; 479 G; 430 T; 0 other;

  Query Match             8.3%;  Score 175.6;  DB 21;  Length 1902;
  Best Local Similarity   57.1%;  Pred. No. 2.3e-19;
  Matches  363;  Conservative    0;  Mismatches  264;  Indels    9;  Gaps    2;

Qy       1205 TGGTGGAAAGAAGCCGTTGCTCAACATATTGCCAAGAACACCGACAGATGCACTGCCCATT 1264
             ||||||||  ||     ||     | || ||      || ||| |   ||| | || || ||
Db       1249 TGGTGGAACGAGAAGGTCCAGAAGCACATGATGCAGCACCAGGAGGATCCCCTCCCGATC 1308

Qy       1265 CCGTTCCGCGATCCGGAACCCCAGGTAACAACCCCATTTACAGAAGAACACCCCTGGCAC 1324
             ||| ||   || || || || ||||| || || |  ||    ||   ||| || ||||||
Db       1309 CCGCTCGATGACCCTGAGCCACAGGTCACGACACTCTTCCAGGACACACATCCATGGCAC 1368

Qy       1325 ACGCAGATTCACCGCGATGCTTTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTCTCGT 1384
             || |||||||| || ||||| |||   ||||| || || |          | |||   |||
Db       1369 ACTCAGATTCATCGTGATGCCTTTAGCTACGGCGCTGTGGCGGAGAGTATCGACAGCCGT 1428

Qy       1385 GTCATCGTCGACCTGCGCTGGTTTGGCGCAACCGACCCTGAAGCAAACAACCTTTTGGTT 1444
               |  | || |||  |||||  || ||     || || ||||  |   | |||    ||
Db       1429 CTTGTTGTTGACTGGCGCTTCTTCGGTCGCACTGAACCTGTGGAGGAGAACAAGCTGTGG 1488

Qy       1445 TTCCAGAACGATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATATCG---A 1501
             |||   ||  |  |    || |  ||||   |||| ||||| || |||||  |  ||
Db       1489 TTCTCAAAACAGATCACTGATGCATACAACCTGCCACAGCCCACATTCAGCTTCCGGTTC 1548

Qy       1502 CCCAGCACTGCGTCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTGGCG 1561
             |||          ||  |  |   ||  |  |||||||| || ||||||    || |
Db       1549 CCCCAGGGCCGCACAGCCCAGGAGGCCGAGCTCATGATGGCTGACATGTGCACGATGTCA 1608

Qy       1562 AGCAACTTGGGAGGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTTGCA 1621
             | |||  | || || |   |||||   ||    ||||||||||||| ||| |||||||  |
Db       1609 ACCAAAGTCGGTGGCTTCCTGCCCGGTTCATATCCGCAGTTTATGGCTCCTGGCCTTGTA 1668

Qy       1622 CTTCATCTTGCGGGGACTACTCGCATTGGCTTCGACAAGGCAACTACAGTGGC------T 1675
             || || ||||  || ||     ||||| ||||| ||  ||| | ||      |||
Db       1669 CTCCACCTTGGTGGAACCCACCGCATGGGCTTTGATGAGGAAGCTGATAAGGCGTGTGTC 1728

Qy       1676 GATAACAACTCGCTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATC 1735
             || | ||||||   |||||  | | | |  || || |   |||  ||    |||| |||
Db       1729 GACACCAACTCAAAGGTCTTCGGCATGGAGAACCTGTTCCTTGGCGGTTGCGGCAACATT 1788

Qy       1736 AGGACGGGCTTCGGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCG 1795
              | || |   | | |  |||||||| || ||  || |    |  || |||| ||||
Db       1789 GGCACCGCGTATGCCTCGAACCCGACGCTCACTGCGGTTGCGCTTGCAATCAGGAGCTGT 1848

Qy       1796 AGGAGCATCATCAATACACTCAAGGGTGGGACTGAC 1831
             | |   ||||  ||||   ||| |     |  ||| |
Db       1849 AAGTATATCAGGAATAATTTCACGCCAAGTCCTGTC 1884


RESULT 6
AAV83626
ID   AAV83626 standard; cDNA to mRNA; 1701 BP.
XX
AC   AAV83626;
XX
DT   26-FEB-1999  (first entry)
XX
DE   Nucleic acid encoding an antitumour protein.
XX
KW   Antitumour protein; Tricholoma matsutake; ss.
XX
OS   Tricholoma matsutake.
XX
FH   Key             Location/Qualifiers
FT   CDS             1..1701
FT                   /*tag= a
FT                   /product= antitumour_protein
XX
PN   JP10313876-A.
XX
PD   02-DEC-1998.
XX
PF   13-FEB-1998;   98JP-0031452.
XX
PR   13-FEB-1997;   97JP-0029275.
XX
PA   (MOMO-) MOMOYA KK.
PA   (NORQ ) NORINSUISANSHO SHOKUHIN SOGO.
XX
DR   WPI; 1999-074153/07.
DR   P-PSDB; AAW87531.
XX
PT   An anti-tumour protein - prepared by culture of host cell
PT   transformed by vector containing base coding sequence
XX
PS   Claim 3; Page 8-10; 15pp; Japanese.
XX
CC   The present sequence encodes an antitumour protein, and is isolated
CC   from Tricholoma matsutake.
XX
SQ   Sequence 1701 BP; 411 A; 463 C; 432 G; 395 T; 0 other;

  Query Match             7.2%;  Score 152.6;  DB 20;  Length 1701;
  Best Local Similarity   53.5%;  Pred. No. 1.1e-15;
  Matches  394;  Conservative    0;  Mismatches  304;  Indels   39;  Gaps    2;

Qy       1106 CTGGGGAGGTACATCACGGAGCAGCCGATGGCATTTTGCCAGATAGTCTTGAGGCAGGAA 1165
             || ||  | ||| |||  || ||| | ||| | ||||| ||||| ||  |  | |  ||
Db        964 CTTGGTCGCTACCTCAGCGAACAGTCCATGACTTTTTGTCAGATCGTTCTCAAGAGGGGC 1023

Qy       1166 TTCGTCGACAGCGTGCGCGACGATCCTTATGGACTGCCATGGTGGAAAGAAGCCGTTGCT 1225
                | |||||   | |        || |||            | |     |     ||||
Db       1024 ATAGTCGATGCCATCGCTACTGACCCT-----------CGCTTCGCTGCGAAGGTTGAG 1071

Qy       1226 CAACATATTGCCAAGAACCCGACAGATGCACTGCCCATTCCGTTCCGCGATCCGGAACCC 1285
                ||  |     ||| ||||    || |  |||||||||||| |||| ||| || |||||
Db       1072 GCGCACAAGAAGAAGCACCCCGATGACGTGCTGCCCATTCCATTCCACGAGCCTGAACCT 1131

Qy       1286 CAGGTAACAACCCCATTTACAGAAGAACACCCCTGGCACACGCAGATTCACCGCGATGCT 1345
             || || |  |  || |  ||    ||   ||| |||||    ||| | || ||||||||
Db       1132 CAAGTGATGATTCCGTACACGTCGGACTTCCCTTGGCATGTTCAGGTGCATCGCGATGCA 1191

Qy       1346 TTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTCTCGTGTCATCGTCGACCTGCGCTGG 1405
             || || || ||||  || || ||  |||  ||| | |||||  ||||||| ||| | |
Db       1192 TTCTCATATGGTGATGTTGGACCCAAGGCCGACCCGCGTGTTGTCGTCGATCTGAGGTTT 1251

Qy       1406 TTTGGCGCAACCGACCCTGAAGCAAACAACCTTTTGGTTTTC------------------ 1447
             || |||  | | ||   ||  | | | || |   ||  ||||
Db       1252 TTCGGCAAATCAGATATTGTCGAAGAAAATCGAGTGACTTTCGGTCCGAACCCTAAGCTA 1311

Qy       1448 ---------CAGAACGATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATAT 1498
                      |    | ||||  ||||   ||  | |||||  |||||||| |||
Db       1312 CGCGAGTGGGAAGCGGGTGTTACAGACACTTATGGAATGCCACAGCCGACATTCCATGTC 1371

Qy       1499 CGACCCAGCACTGCGTCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTG 1558
                |  | ||  ||        |   | |    ||  ||||||   ||||||  | | ||
Db       1372 AAGCGGACCAACGCCGATGGAGACCGTGACCAGAGGATGATGAATGATATGACCAACGTC 1431

Qy       1559 GCGAGCAACTTGGGAGGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTT 1618
             |||| ||   |||| || ||  | ||    |||  ||| || |||||||  || || ||
Db       1432 GCGAACATGCTGGGTGGGTACCTTCCTGGCTCCTACCCTCAATTTATGGCACCTGGTCTC 1491

Qy       1619 GCACTTCATCTTGCGGGGACTACTCGCATTGGCTTCGACAAGGCAACTACAGTGGCTGAT 1678
             | ||| ||  |  |||| |||||||| || ||    ||  |   |||| | || ||||||
Db       1492 GTACTGCACATCACGGGAACTACTCGGATCGGGACAGATGATCAAACTTCTGTTGCTGAT 1551

Qy       1679 AACAACTCGCTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATCAGG 1738
                |  ||  |||     ||||  |||||| |  || |  || |||||   |||
Db       1552 CCGACATCAAAGGTTCATAACTTCAACAATCTGTGGGTCGGCGGGAATGGGTGCATTCCA 1611
```

```
Qy       1739 ACGGGCTTCGGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCGAGG 1798
Db       1612 GATGCGACTGCCTGCAACCCGACTCGTACGAGCGTCGCGTATGCGCTCAAGGGTGCTGAG 1671

Qy       1799 AGCATCATCAATACACT 1815
Db       1672 GCTGTAGTCAATTACCT 1688
```

RESULT 7
AAA71487
ID AAA71487 standard; cDNA; 1946 BP.
XX
AC AAA71487;
XX
DT 11-DEC-2000 (first entry)
XX
DE T. matsutake pyranose oxidase cDNA.
XX
KW Pyranose oxidase; matsutake mushroom; antibacterial; sugar metabolism;
KW diabetes mellitus; ss.
XX
OS Tricholoma matsutake.
XX
FH Key Location/Qualifiers
FT CDS 101..1795
FT /*tag= a
FT /product= "pyranose oxidase"
XX
PN JP2000175698-A.
XX
PD 27-JUN-2000.
XX
PF 16-DEC-1998; 98JP-0357423.
XX
PR 16-DEC-1998; 98JP-0357423.
XX
PA (NISB) JAPAN TOBACCO INC.
XX
DR WPI; 2000-478485/42.
DR P-PSDB; AAB10457.
XX
PT A reagent containing pyranose oxidase for the determination of pyranose
PT .
XX
PS Disclosure; Page 14-17; 23pp; Japanese.
XX
CC This invention describes a novel reagent containing pyranose oxidase for
CC the determination of pyranose which can be prepared from a fraction
CC precipitated from an aqueous extract of matsutake mushroom by ammonium
CC sulfate precipitation and has an antibacterial activity against at least
CC Pyricularia oryzae or Thanatephorus cucumeris and has a M.W. of ca.
CC 210 kD by gel filtration and shows the presence of components of ca.
CC 50 kD and ca. 15 kD by SDS-PAGE and maintains the above antibacterial
CC activity by being heated at 60 degrees C for 10 minutes in a neutral
CC aqueous solution and in which the above antibacterial activity is
CC inactivated by being heated at 80 degrees C for 10 minutes in a neutral
CC aqueous solution. The invention also describes a method for the
CC determination of pyranose in a sample in which the above reagent for the
CC determination of pyranose is reacted with pyranose in the sample and the
CC hydrogen peroxide formed is reacted with an enzyme to develop a color, a
CC method for diagnosing a disease accompanied by abnormality in sugar
CC metabolism in which the above reagent for the determination of pyranose
CC is reacted with pyranose in the sample and the hydrogen peroxide formed
CC is reacted with an enzyme to develop a color, and a kit for pyranose
CC analysis or the diagnosis of a disease accompanied by abnormality in
CC sugar metabolism. The pyranose oxidase can be used as a diagnostic agent
CC for diabetes mellitus. This sequence encodes the Tricholoma matsutake
CC pyranose oxidase protein which is described in the method of the
CC invention.
XX
SQ Sequence 1946 BP; 484 A; 516 C; 475 G; 471 T; 0 other;

Query Match 6.1%; Score 129; DB 21; Length 1946;
Best Local Similarity 52.5%; Pred. No. 6.1e-12;
Matches 387; Conservative 0; Mismatches 305; Indels 45; Gaps 3;

```
Qy       1106 CTGGGGAGGTACATCACGGAGCAGCCGATGGCATTTTGCCAGATAGTCTTGAGGCAGGAA 1165
Db       1064 CTTGGTCGCTACCTCAGCGAACAGTCCATGACTTTTTGTCAGATTGTTCTCAAGAGGAGC 1123

Qy       1166 TTCGTCGACAGCGTGCGCGACGATCCTTATGGACTGCCATGGTGGAAAGAAGCCGTTGCT 1225
Db       1124 ATAGTCGATTCCATCGCTACTGACCCT-----------CGCTTCGCTGCGAAGGTTGAG 1171

Qy       1226 CAACATATTGCCAAGAACCCGACAGATGCACTGCCCATTCCGTTCCGCGATCCGGAACCC 1285
Db       1172 GCGCACAAGAAGAAGCACCCCGATGACGTGCTGCCGATTCCATTCCACGAGCCTGAACCT 1231

Qy       1286 CAGGTAACAACCCCATTTACAGAAGAACACCCCTGGCACACGCAGATTCACCGCGATGCT 1345
Db       1232 CAAGTGATGATTCCGTACACGTCGGACTTCCCTTGGCATGTTCAGGTCCATCGCTATGCA 1291

Qy       1346 TTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTCTCGTGTCATCGTCGACCTGCGCTGG 1405
Db       1292 TTT------GGTGATGTTGGACCCAAGGCCGACCCGCGTGTTGTCGTCGATCTGAGGTTT 1345

Qy       1406 TTTGGCGCAACCGACCCTGAAGCAAACAACCTTTTGGTTTTCC---------------- 1448
Db       1346 TTCGGCAAATCAGATATTGTCGAAGAAAATCGAGTGACTTTCGGTCCGAACCCTAAGCTA 1405

Qy       1449 ----------AGAACGATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATAT 1498
Db       1406 CGCGACTGGGAAGCGGGTGTTACAGACACTTATGGAATGCCACAGCCGACATTCCATGTC 1465

Qy       1499 CGACCCAGCACTGCGTCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTG 1558
Db       1466 AAGCGGACCAACGCCGATGGAGACCGTGACCAGAGGATGATGAATGATATGACCAACGTC 1525

Qy       1559 GCGAGCAACTTGGGAGGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTT 1618
Db       1526 GCGAACATACTGGGCGGGTACCTTCCTGGCTCCTACCCTCAATTTATGGCACCTGGTCTC 1585

Qy       1619 GCACTTCATCTTGCGGGGACTACTCGCATTGGCTTCGACAAGGCAACTACAGTGGCTGAT 1678
Db       1586 GCACAGCACATCACGGGAACTACTCGGATCGGGACAGATGATCAAACTTCTGTTGCTGAT 1645

Qy       1679 AACAACTCGCTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATCAGG 1738
Db       1646 CCGACATCAAAGGTTCATAACTTCGACAATCTGTGGGTCGGCGGGAATGGGTGCATTCCA 1705

Qy       1739 ACGGGCTTCGGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCGAGG 1798
Db       1706 GATGCGACTGCCTGCAACCCGACTCGTACGAGCGTCGCGTATGCGCTTAAGGGTGCTGAG 1765

Qy       1799 AGCATCATCAATACACT 1815
Db       1766 GCTGTAGTCAGTTACCT 1782
```

RESULT 8
AAA07403
ID AAA07403 standard; DNA; 1946 BP.
XX
AC AAA07403;
XX
DT 07-JUL-2000 (first entry)
XX
DE Trichoderma derived antifungal protein coding sequence.
XX
KW Antifungal protein; Pyricularia oryzae; Rhizoctonia solani; mushroom;
KW growth inhibitor; plant pathogenic fungi; antibacterial agent;
KW N-terminal fragment; ss.
XX
OS Trichoderma matsutake.
XX

PN WO200014242-A1.
XX
PD 16-MAR-2000.
XX
PF 19-AUG-1999; 99WO-JP04441.
XX
PR 08-SEP-1998; 98JP-0270606.
XX
PA (NISB) JAPAN TOBACCO INC.
PA (NORQ) SOC TECHNO-INNOVATION AGRIC FORESTY & FI.
XX
PI Takakura Y, Kuwata S, Ohta S;
XX
DR WPI; 2000-256990/22.
DR P-PSDB; AAY81952.
XX
PT Mushroom-derived antibacterial protein against plant pathogenic fungi
PT of rice, with activity and thermal stability, obtainable cheaply on
PT large scale, useful in agriculture -
XX
PS Claim 13; Page 41-45; 52pp; Japanese.
XX
CC This sequence encodes the Trichoderma matsutake antibacterial protein of
CC the invention. The protein has activity against at least Pyricularia
CC oryzae and Rhizoctonia solani, and is obtained from a fraction of an
CC aqueous extract of a mushroom precipitated by the ammonium sulphate
CC precipitation method. The protein has a molecular weight of about 210 kD
CC as determined by the gel filtration method, includes components of about
CC 15 kD and 50 kD in SDS-PAGE, and is stable to heating in an aqueous
CC neutral solution at 60 degrees C for 10 minutes but with loss of
CC antibacterial activity after heating in the solution at 80 degrees C for
CC 10 minutes. The protein is used for inhibiting the growth of plant
CC pathogenic fungi e.g. Pyricularia oryzae and Rhizoctonia solani.
CC It is useful in treating rice plants, and is applicable in agriculture as
CC an antibacterial agent. The protein has activity at relatively low
CC concentrations, and can be produced at low cost on large scale.
XX
SQ Sequence 1946 BP; 484 A; 516 C; 475 G; 471 T; 0 other; .

Query Match 6.1%; Score 129; DB 21; Length 1946;
Best Local Similarity 52.5%; Pred. No. 6.1e-12;
Matches 387; Conservative 0; Mismatches 305; Indels 45; Gaps 3;

```
Qy       1106 CTGGGGAGGTACATCACGGAGCAGCCGATGGCATTTTGCCAGATAGTCTTGAGGCAGGAA 1165
             || ||  | ||| |||  || ||| | ||| | ||||| ||||| ||  | | |  |
Db       1064 CTTGGTCGCTACCTCAGCGAACAGTCCATGACTTTTTGTCAGATTGTTCTCAAGAGGAGC 1123

Qy       1166 TTCGTCGACAGCGTGCGCGACGATCCTTATGGACTGCCATGGTGGAAAGAAGCCGTTGCT 1225
               | |||||   | |      || |||          | |     |     ||||
Db       1124 ATAGTCGATTCCATCGCTACTGACCCT-----------CGCTTCGCTGCGAAGGTTGAG 1171

Qy       1226 CAACATATTGCCAAGAACCCGACAGATGCACTGCCCATTCCGTTCCGCGATCCGGAACCC 1285
                || |     ||| ||||    || |  ||||| ||||| |||| ||| || |||||
Db       1172 GCGCACAAGAAGAAGCACCCCGATGACGTGCTGCCGATTCCATTCCACGAGCCTGAACCT 1231

Qy       1286 CAGGTAACAACCCCATTTACAGAAGAACACCCCTGGCACACGCAGATTCACCGCGATGCT 1345
              || || |  | || |  ||    ||   ||| |||||    ||| | || ||| ||||
Db       1232 CAAGTGATGATTCCGTACACGTCGGACTTCCCTTGGCATGTTCAGGTCCATCGCTATGCA 1291

Qy       1346 TTTTCGTACGGTGCCGTCGGTCCTGAGGTGGACTCTCGTGTCATCGTCGACCTGCGCTGG 1405
              |||      ||||  || || ||  |||  ||| | |||||  ||||||| ||| | |
Db       1292 TTT------GGTGATGTTGGACCCAAGGCCGACCCGCGTGTTGTCGTCGATCTGAGGTTT 1345

Qy       1406 TTTGGCGCAACCGACCCTGAAGCAAACAACCTTTTGGTTTTCC---------------- 1448
              || |||  | | ||   ||  | | | || |   ||  ||||
Db       1346 TTCGGCAAATCAGATATTGTCGAAGAAAATCGAGTGACTTTCGGTCCGAACCCTAAGCTA 1405

Qy       1449 ----------AGAACGATGTTCAAGACGGGTACAGTATGCCGCAGCCGACGTTCAGATAT 1498
                        |    | ||||  ||||   ||  | ||||| ||||||||  |||
Db       1406 CGCGACTGGGAAGCGGGTGTTACAGACACTTATGGAATGCCACAGCCGACATTCCATGTC 1465

Qy       1499 CGACCCAGCACTGCGTCAAACGTGAGAGCAAGGAAAATGATGGCCGATATGTGCGAAGTG 1558
                | | ||  ||       |   | |    ||  ||||||   ||||||  | | ||
```

Db 1466 AAGCGGACCAACGCCGATGGAGACCGTGACCAGAGGATGATGAATGATATGACCAACGTC 1525

```
Qy       1559 GCGAGCAACTTGGGAGGTTATTTGCCCACGTCCCCCCCGCAGTTTATGGATCCAGGCCTT 1618
              |||| ||   |||| || ||  | ||     |||  ||| || |||||||  || || ||
Db       1526 GCGAACATACTGGGCGGGTACCTTCCTGGCTCCTACCCTCAATTTATGGCACCTGGTCTC 1585

Qy       1619 GCACTTCATCTTGCGGGGACTACTCGCATTGGCTTCGACAAGGCAACTACAGTGGCTGAT 1678
              ||||  ||  |  |||| |||||||| || ||    ||  |   |||| | || ||||||
Db       1586 GCACAGCACATCACGGGAACTACTCGGATCGGGACAGATGATCAAACTTCTGTTGCTGAT 1645

Qy       1679 AACAACTCGCTGGTCTGGGACTTTGCCAATCTTTATGTTGCAGGCAATGGCACCATCAGG 1738
                |  ||   |||     |||| | |||||| |  || |  || |||||   |||
Db       1646 CCGACATCAAAGGTTCATAACTTCGACAATCTGTGGGTCGGCGGGAATGGGTGCATTCCA 1705

Qy       1739 ACGGGCTTCGGCGAGAACCCGACACTTACGTCGATGTGCCACGCTATCAAGAGCGCGAGG 1798
                |     | |   |||||||| | ||||     |     | ||  | ||| | ||   |
Db       1706 GATGCGACTGCCTGCAACCCGACTCGTACGAGCGTCGCGTATGCGCTTAAGGGTGCTGAG 1765

Qy       1799 AGCATCATCAATACACT 1815
                 |  ||| |  ||
Db       1766 GCTGTAGTCAGTTACCT 1782
```

RESULT 9
AAS45962
ID AAS45962 standard; cDNA; 4639 BP.
XX
AC AAS45962;
XX
DT 18-DEC-2001 (first entry)
XX
DE Human DNA encoding PRO polypeptide sequence #38.
XX
KW PRO polypeptide; mammal; tumour; cancer; human; cattle; horse; sheep; ss;
KW dog; cat; pig; goat; rabbit; tumour necrosis factor alpha; TNF-alpha;
KW blood; chondrocyte cell; cell proliferation; cell differentiation; colon;
KW adrenal; lung; breast; prostate; rectum; cervix; liver; genetic disorder;
KW PCR primer.
XX
OS Homo sapiens.
XX
PN WO200168848-A2.
XX
PD 20-SEP-2001.
XX
PF 28-FEB-2001; 2001WO-US06520.
XX
PR 01-MAR-2000; 2000WO-US05601.
PR 02-MAR-2000; 2000WO-US05841.
PR 03-MAR-2000; 2000US-187202P.
PR 06-MAR-2000; 2000US-186968P.
PR 14-MAR-2000; 2000US-189320P.
PR 14-MAR-2000; 2000US-189328P.
PR 15-MAR-2000; 2000WO-US06884.
PR 21-MAR-2000; 2000US-190828P.
PR 21-MAR-2000; 2000US-191007P.
PR 21-MAR-2000; 2000US-191048P.
PR 21-MAR-2000; 2000US-191314P.
PR 28-MAR-2000; 2000US-192655P.
PR 29-MAR-2000; 2000US-193032P.
PR 29-MAR-2000; 2000US-193053P.
PR 30-MAR-2000; 2000WO-US08439.
PR 04-APR-2000; 2000US-194449P.
PR 04-APR-2000; 2000US-194647P.
PR 11-APR-2000; 2000US-195975P.
PR 11-APR-2000; 2000US-196000P.
PR 11-APR-2000; 2000US-196187P.
PR 11-APR-2000; 2000US-196690P.
PR 11-APR-2000; 2000US-196820P.
PR 18-APR-2000; 2000US-198121P.
PR 18-APR-2000; 2000US-198585P.
PR 25-APR-2000; 2000US-199397P.
PR 25-APR-2000; 2000US-199550P.

PR 25-APR-2000; 2000US-199654P.
PR 03-MAY-2000; 2000US-201516P.
PR 17-MAY-2000; 2000WO-US13705.
PR 22-MAY-2000; 2000WO-US14042.
PR 30-MAY-2000; 2000WO-US14941.
PR 02-JUN-2000; 2000WO-US15264.
PR 05-JUN-2000; 2000US-209832P.
PR 28-JUL-2000; 2000WO-US20710.
PR 22-AUG-2000; 2000US-0644848.
PR 24-AUG-2000; 2000WO-US23328.
PR 08-NOV-2000; 2000WO-US30952.
PR 01-DEC-2000; 2000WO-US32678.
PR 20-DEC-2000; 2000WO-US34956.
XX
PA (GETH) GENENTECH INC.
XX
PI Baker KP, Chen J, Desnoyers L, Goddard A, Godowski PJ, Gurney AL;
PI Pan J, Smith V, Watanabe CK, Wood WI, Zhang Z;
XX
DR WPI; 2001-602746/68.
DR P-PSDB; AAU29061.
XX
PT Novel nucleic acids encoding PRO polypeptides, used to diagnose the
PT presence of tumours, such as prostate and breast tumours, in mammals and
PT to screen for modulators of the compounds -
XX
PS Claim 2; Fig 75; 774pp; English.
XX
CC Sequences AAS45925-AAS46231 represent DNA molecules encoding and PCR
CC primers for PRO polypeptides of the invention. The sequences of the
CC invention can be used to detect the presence of a tumour in a mammal by
CC comparing the level of expression of a PRO polypeptide in a test sample
CC of cells from the animal and a control sample of normal cells, whereby a
CC higher level of expression in the test sample indicates the presence of a
CC tumour in the mammal. Mammals include dogs, cats, cattle, horses, sheep,
CC pigs, goats and rabbits but are preferably human. The polypeptides can be
CC used to stimulate tumour necrosis factor (TNF) alpha release from human
CC blood, when contacted with it. A specific polypeptide can be used to
CC stimulate the proliferation or differentiation of chondrocyte cells. The
CC PRO proteins can be used to determine the presence of tumours and also
CC susceptibility to tumour development, particularly adrenal, lung, colon,
CC breast, prostate, rectal, cervical, or liver tumours, in mammalian
CC subjects. The oligonucleotide probes specific for the PRO nucleic acids
CC can be used for genetic analysis of individuals with genetic disorders.
XX
SQ Sequence 4639 BP; 1426 A; 956 C; 1025 G; 1232 T; 0 other;

Query Match 4.5%; Score 94.4; DB 22; Length 4639;
Best Local Similarity 72.9%; Pred. No. 1.9e-06;
Matches 137; Conservative 0; Mismatches 46; Indels 5; Gaps 1;

Qy 1924 TCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTACTGA 1983
Db 4423 TATGGCTCCATTTTATTTTATAGTGTAAAGTTGTATTTCCTAAAGTTTGTGTTTTGTCGA 4482

Qy 1984 ACCTGTACTTTGTCTGA-----ATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAA 2038
Db 4483 CAGTATCTTTTAAATGAGTCTTAAAAATAAAGGCATATTGTTCATGTTTAAAAAAAAAAA 4542

Qy 2039 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2098
Db 4543 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 4602

Qy 2099 AAAAAAAA 2106
Db 4603 AAAAAAAA 4610

RESULT 10
AAC78483
ID AAC78483 standard; cDNA; 4640 BP.
XX
AC AAC78483;
XX
DT 08-FEB-2001 (first entry)
XX
DE Human PRO708 (UNQ372) nucleotide sequence SEQ ID NO:113.
XX
KW Human; secreted protein; transmembrane protein; PRO; EST; cytostatic;
KW expressed sequence tag; detection; cancer; ss.
XX
OS Homo sapiens.
XX
PN WO200053756-A2.
XX
PD 14-SEP-2000.
XX
PF 18-FEB-2000; 2000WO-US04341.
XX
PR 08-MAR-1999; 99WO-US05028.
PR 12-MAR-1999; 99US-0123957.
PR 29-MAR-1999; 99US-0126773.
PR 21-APR-1999; 99US-0130232.
PR 28-APR-1999; 99US-0131445.
PR 14-MAY-1999; 99US-0134287.
PR 23-JUN-1999; 99US-0141037.
PR 26-JUL-1999; 99US-0145698.
PR 29-OCT-1999; 99US-0162506.
PR 30-NOV-1999; 99WO-US28313.
PR 02-DEC-1999; 99WO-US28551.
PR 02-DEC-1999; 99WO-US28565.
PR 16-DEC-1999; 99WO-US30095.
PR 30-DEC-1999; 99WO-US31243.
PR 30-DEC-1999; 99WO-US31274.
PR 05-JAN-2000; 2000WO-US00219.
PR 06-JAN-2000; 2000WO-US00277.
PR 06-JAN-2000; 2000WO-US00376.
XX
PA (GETH) GENENTECH INC.
XX
PI Ashkenazi AJ, Baker KP, Botstein D, Desnoyers L, Eaton DL;
PI Ferrara N, Filvaroff E, Fong S, Gao W, Gerber H, Gerritsen ME;
PI Goddard A, Godowski PJ, Grimaldi CJ, Gurney AL, Hillan KJ;
PI Kljavin IJ, Kuo SS, Napier MA, Pan J, Paoni NF, Roy MA;
PI Shelton DL, Stewart TA, Tumas D, Williams PM, Wood WI;
XX
DR WPI; 2000-611443/58.
DR P-PSDB; AAB44257.
XX
PT Novel PRO polypeptides and polynucleotides used in detection methods,
PT to target bioactive molecules to specific cells, and to modulate
PT cellular activities -
XX
PS Claim 2; Fig 42; 636pp; English.
XX
CC AAC78458 to AAC78599 represent polynucleotide and EST (expressed
CC sequence tag) sequences which encode secreted or transmembrane PRO
CC polypeptides. The PRO polynucleotides and polypeptides have cytostatic
CC activity. The polynucleotides and polypeptides can be used for detecting
CC the presence of PRO polypeptides in samples, for linking bioactive
CC molecules to cells and for modulating biological activities of cells,
CC using the polypeptides for specific targeting. The polypeptide targeting
CC can be used to kill the target cells, e.g. for the treatment of cancers.
CC The polypeptide pairs provide specific targeting of bioactive molecules
CC to cells. AAC78600 to AAC78987 represent PCR primers and probes used in
CC the isolation of the PRO polynucleotide sequences.
XX
SQ Sequence 4640 BP; 1427 A; 955 C; 1026 G; 1232 T; 0 other;

Query Match 4.5%; Score 94.4; DB 21; Length 4640;
Best Local Similarity 72.9%; Pred. No. 1.9e-06;
Matches 137; Conservative 0; Mismatches 46; Indels 5; Gaps 1;

Qy 1924 TCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTACTGA 1983
Db 4423 TATGGCTCCATTTTATTTTATAGTGTAAAGTTGTATTTCCTAAAGTTTGTGTTTTGTCGA 4482

```
Qy       1984 ACCTGTACTTTGTCTGA-----ATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAA 2038
              | |  |||   |||     | |  ||  |   |||  ||||||||||||||||||
Db       4483 CAGTATCTTTTAAATGAGTCTTAAAAATAAAGGCATATTGTTCATGTTTAAAAAAAAAAA 4542

Qy       2039 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2098
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       4543 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 4602

Qy       2099 AAAAAAAA 2106
              ||||||||
Db       4603 AAAAAAAA 4610
```

RESULT 11
ACA57720
ID ACA57720 standard; cDNA; 4640 BP.
XX
AC ACA57720;
XX
DT 10-JUN-2003 (first entry)
XX
DE Human PRO708 cDNA.
XX
KW Human; PRO; secreted; transmembrane; cytostatic; TNF-alpha; blood; gene;
KW tumour necrosis factor alpha release; chondrocyte cell; proliferation;
KW differentiation; tumour; gene therapy; ss.
XX
OS Homo sapiens.
XX
PN US2003036143-A1.
XX
PD 20-FEB-2003.
XX
PF 02-JUL-2002; 2002US-0187600.
XX
PR 16-SEP-1998; 98WO-US19330.
PR 07-OCT-1998; 98WO-US21141.
PR 01-DEC-1998; 98WO-US25108.
PR 08-MAR-1999; 99WO-US05028.
PR 14-MAY-1999; 99WO-US10733.
PR 02-JUN-1999; 99WO-US12252.
PR 01-SEP-1999; 99WO-US20111.
PR 15-SEP-1999; 99WO-US21090.
PR 01-DEC-1999; 99WO-US28301.
PR 02-DEC-1999; 99WO-US28551.
PR 30-DEC-1999; 99WO-US31274.
PR 05-JAN-2000; 2000WO-US00219.
PR 18-FEB-2000; 2000WO-US04341.
PR 18-FEB-2000; 2000WO-US04342.
PR 22-FEB-2000; 2000WO-US04414.
PR 24-FEB-2000; 2000WO-US05004.
PR 01-MAR-2000; 2000WO-US05601.
PR 02-MAR-2000; 2000WO-US05841.
PR 15-MAR-2000; 2000WO-US06884.
PR 30-MAR-2000; 2000WO-US08439.
PR 17-MAY-2000; 2000WO-US13705.
PR 22-MAY-2000; 2000WO-US14042.
PR 30-MAY-2000; 2000WO-US14941.
PR 02-JUN-2000; 2000WO-US15264.
PR 28-JUL-2000; 2000WO-US20710.
PR 24-AUG-2000; 2000WO-US23328.
PR 08-NOV-2000; 2000WO-US30952.
PR 01-DEC-2000; 2000WO-US32678.
PR 20-DEC-2000; 2000WO-US34956.
PR 28-FEB-2001; 2001WO-US06520.
PR 01-JUN-2001; 2001WO-US17800.
PR 20-JUN-2001; 2001WO-US19692.
PR 29-JUN-2001; 2001WO-US21066.
PR 09-JUL-2001; 2001WO-US21735.
PR 29-AUG-2001; 2001WO-US27099.
PR 18-SEP-1997; 97US-059263P.
PR 18-SEP-1997; 97US-059266P.
PR 17-OCT-1997; 97US-062250P.
PR 21-OCT-1997; 97US-063486P.
PR 24-OCT-1997; 97US-063120P.
PR 24-OCT-1997; 97US-063121P.
PR 28-OCT-1997; 97US-063540P.
PR 28-OCT-1997; 97US-063541P.
PR 28-OCT-1997; 97US-063544P.
PR 28-OCT-1997; 97US-063564P.
PR 29-OCT-1997; 97US-063734P.
PR 31-OCT-1997; 97US-063870P.
PR 31-OCT-1997; 97US-064103P.
PR 13-NOV-1997; 97US-065311P.
PR 21-NOV-1997; 97US-066120P.
PR 24-NOV-1997; 97US-066466P.
PR 24-NOV-1997; 97US-066772P.
PR 11-DEC-1997; 97US-069335P.
PR 12-DEC-1997; 97US-069425P.
PR 17-DEC-1997; 97US-069870P.
PR 18-DEC-1997; 97US-068017P.
PR 10-MAR-1998; 98US-077450P.
PR 11-MAR-1998; 98US-077632P.
PR 11-MAR-1998; 98US-077649P.
PR 20-MAR-1998; 98US-078886P.
PR 20-MAR-1998; 98US-078939P.
PR 27-MAR-1998; 98US-079664P.
PR 27-MAR-1998; 98US-079786P.
PR 31-MAR-1998; 98US-080107P.
PR 31-MAR-1998; 98US-080194P.
PR 01-APR-1998; 98US-080327P.
PR 01-APR-1998; 98US-080333P.
PR 08-APR-1998; 98US-081049P.
PR 08-APR-1998; 98US-081070P.
PR 09-APR-1998; 98US-081195P.
PR 15-APR-1998; 98US-081838P.
PR 21-APR-1998; 98US-082568P.
PR 21-APR-1998; 98US-082569P.
PR 22-APR-1998; 98US-082704P.
PR 22-APR-1998; 98US-082797P.
PR 28-APR-1998; 98US-083322P.
PR 29-APR-1998; 98US-083495P.
PR 29-APR-1998; 98US-083496P.
PR 29-APR-1998; 98US-083499P.
PR 29-APR-1998; 98US-083559P.
PR 05-MAY-1998; 98US-084366P.
PR 06-MAY-1998; 98US-084414P.
PR 07-MAY-1998; 98US-084639P.
PR 07-MAY-1998; 98US-084640P.
PR 07-MAY-1998; 98US-084643P.
PR 15-MAY-1998; 98US-085579P.
PR 15-MAY-1998; 98US-085580P.
PR 15-MAY-1998; 98US-085582P.
PR 15-MAY-1998; 98US-085700P.
PR 18-MAY-1998; 98US-086023P.
PR 22-MAY-1998; 98US-086392P.
PR 22-MAY-1998; 98US-086486P.
PR 28-MAY-1998; 98US-087098P.
PR 28-MAY-1998; 98US-087208P.
PR 02-JUN-1998; 98US-087609P.
PR 02-JUN-1998; 98US-087759P.
PR 03-JUN-1998; 98US-087827P.
PR 04-JUN-1998; 98US-088025P.
PR 04-JUN-1998; 98US-088028P.
PR 04-JUN-1998; 98US-088029P.
PR 04-JUN-1998; 98US-088033P.
PR 04-JUN-1998; 98US-088326P.
PR 05-JUN-1998; 98US-088167P.
PR 05-JUN-1998; 98US-088202P.
PR 05-JUN-1998; 98US-088212P.
PR 05-JUN-1998; 98US-088217P.
PR 09-JUN-1998; 98US-088655P.
PR 10-JUN-1998; 98US-088722P.
PR 10-JUN-1998; 98US-088738P.
PR 10-JUN-1998; 98US-088740P.

PR 10-JUN-1998; 98US-088811P.
PR 10-JUN-1998; 98US-088824P.
PR 10-JUN-1998; 98US-088825P.
PR 10-JUN-1998; 98US-088826P.
PR 11-JUN-1998; 98US-088861P.
PR 11-JUN-1998; 98US-088863P.
PR 11-JUN-1998; 98US-088876P.
PR 12-JUN-1998; 98US-089090P.
PR 12-JUN-1998; 98US-089105P.
PR 16-JUN-1998; 98US-089512P.
PR 16-JUN-1998; 98US-089514P.
PR 17-JUN-1998; 98US-089538P.
PR 17-JUN-1998; 98US-089598P.
PR 17-JUN-1998; 98US-089653P.
PR 18-JUN-1998; 98US-089908P.
PR 19-JUN-1998; 98US-089952P.
PR 22-JUN-1998; 98US-090246P.
PR 22-JUN-1998; 98US-090252P.
PR 22-JUN-1998; 98US-090254P.
PR 24-JUN-1998; 98US-090429P.
PR 24-JUN-1998; 98US-090435P.
PR 24-JUN-1998; 98US-090444P.
PR 24-JUN-1998; 98US-090461P.
PR 24-JUN-1998; 98US-090535P.
PR 24-JUN-1998; 98US-090540P.
PR 25-JUN-1998; 98US-090676P.
PR 25-JUN-1998; 98US-090678P.
PR 25-JUN-1998; 98US-090688P.
PR 25-JUN-1998; 98US-090690P.
PR 25-JUN-1998; 98US-090694P.
PR 25-JUN-1998; 98US-090695P.
PR 25-JUN-1998; 98US-090696P.
PR 26-JUN-1998; 98US-090862P.
PR 26-JUN-1998; 98US-090863P.
PR 26-JUN-1998; 98US-091010P.
PR 01-JUL-1998; 98US-091359P.
PR 01-JUL-1998; 98US-091544P.
PR 02-JUL-1998; 98US-091478P.
PR 02-JUL-1998; 98US-091486P.
PR 02-JUL-1998; 98US-091626P.
PR 02-JUL-1998; 98US-091628P.
PR 02-JUL-1998; 98US-091632P.
PR 24-JUL-1998; 98US-094006P.
PR 04-AUG-1998; 98US-095282P.
PR 10-AUG-1998; 98US-095998P.
PR 10-AUG-1998; 98US-096012P.
PR 17-AUG-1998; 98US-096757P.
PR 17-AUG-1998; 98US-096766P.
PR 17-AUG-1998; 98US-096867P.
PR 17-AUG-1998; 98US-096891P.
PR 17-AUG-1998; 98US-096897P.
PR 18-AUG-1998; 98US-096949P.
PR 18-AUG-1998; 98US-096959P.
PR 18-AUG-1998; 98US-097022P.
PR 26-AUG-1998; 98US-097952P.
PR 26-AUG-1998; 98US-097954P.
PR 26-AUG-1998; 98US-097955P.
PR 26-AUG-1998; 98US-097971P.
PR 26-AUG-1998; 98US-097974P.
PR 26-AUG-1998; 98US-098014P.
PR 01-SEP-1998; 98US-098716P.
PR 01-SEP-1998; 98US-098723P.
PR 02-SEP-1998; 98US-098803P.
PR 02-SEP-1998; 98US-098821P.
PR 02-SEP-1998; 98US-098843P.
PR 09-SEP-1998; 98US-099602P.
PR 10-SEP-1998; 98US-099741P.
PR 10-SEP-1998; 98US-099754P.
PR 10-SEP-1998; 98US-099763P.
PR 10-SEP-1998; 98US-099812P.

Query Match 4.5%; Score 94.4; DB 25; Length 4640;
Best Local Similarity 72.9%; Pred. No. 1.9e-06;

Matches 137; Conservative 0; Mismatches 46; Indels 5; Gaps 1;

```
Qy       1924 TCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTACTGA 1983
             | |||  || |   || ||   |||||   | |   ||   | | |||||| ||   ||
Db       4423 TATGGCTCCATTTTATTTTATAGTGTAAAGTTGTATTTCCTAAAGTTTGTGTTTTGTCGA 4482

Qy       1984 ACCTGTACTTTGTCTGA-----ATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAA 2038
                 | |  |||   |||     | |  ||  |   |||  |||||||||||||||||||
Db       4483 CAGTATCTTTTAAATGAGTCTTAAAAATAAAGGCATATTGTTCATGTTTAAAAAAAAAAA 4542

Qy       2039 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2098
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       4543 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 4602

Qy       2099 AAAAAAAA 2106
              ||||||||
Db       4603 AAAAAAAA 4610
```

RESULT 12
ABX98190
ID ABX98190 standard; cDNA; 4640 BP.
XX
AC ABX98190;
XX
DT 19-MAY-2003 (first entry)
XX
DE Human cDNA encoding a secreted/transmembrane protein, SEQ ID 75.
XX
KW Human; ss; gene; PRO; secreted protein; transmembrane protein;
KW cytostatic; antiarthritic; osteopathic; adrenal tumour; lung tumour;
KW colon tumour; breast tumour; prostate tumour; rectal tumour;
KW cervical tumour; liver tumour; TNF-alpha release; arthritis;
KW tumour necrosis factor alpha; chondrocyte cell; bone disorder;
KW cartilage disorder; sports injury.
XX
OS Homo sapiens.
XX
PN US2003036156-A1.
XX
PD 20-FEB-2003.
XX
PF 02-JUL-2002; 2002US-0188767.
XX
PR 16-SEP-1998; 98WO-US19330.
PR 07-OCT-1998; 98WO-US21141.
PR 01-DEC-1998; 98WO-US25108.
PR 08-MAR-1999; 99WO-US05028.
PR 14-MAY-1999; 99WO-US10733.
PR 02-JUN-1999; 99WO-US12252.
PR 01-SEP-1999; 99WO-US20111.
PR 15-SEP-1999; 99WO-US21090.
PR 01-DEC-1999; 99WO-US28301.
PR 02-DEC-1999; 99WO-US28551.
PR 30-DEC-1999; 99WO-US31274.
PR 05-JAN-2000; 2000WO-US00219.
PR 18-FEB-2000; 2000WO-US04341.
PR 18-FEB-2000; 2000WO-US04342.
PR 22-FEB-2000; 2000WO-US04414.
PR 24-FEB-2000; 2000WO-US05004.
PR 01-MAR-2000; 2000WO-US05601.
PR 02-MAR-2000; 2000WO-US05841.
PR 15-MAR-2000; 2000WO-US06884.
PR 30-MAR-2000; 2000WO-US08439.
PR 17-MAY-2000; 2000WO-US13705.
PR 22-MAY-2000; 2000WO-US14042.
PR 30-MAY-2000; 2000WO-US14941.
PR 02-JUN-2000; 2000WO-US15264.
PR 28-JUL-2000; 2000WO-US20710.
PR 24-AUG-2000; 2000WO-US23328.
PR 08-NOV-2000; 2000WO-US30952.
PR 01-DEC-2000; 2000WO-US32678.
PR 20-DEC-2000; 2000WO-US34956.

PR 28-FEB-2001; 2001WO-US06520.
PR 01-JUN-2001; 2001WO-US17800.
PR 20-JUN-2001; 2001WO-US19692.
PR 29-JUN-2001; 2001WO-US21066.
PR 09-JUL-2001; 2001WO-US21735.
PR 29-AUG-2001; 2001WO-US27099.
PR 18-SEP-1997; 97US-059263P.
PR 18-SEP-1997; 97US-059266P.
PR 17-OCT-1997; 97US-062250P.
PR 21-OCT-1997; 97US-063486P.
PR 24-OCT-1997; 97US-063120P.
PR 24-OCT-1997; 97US-063121P.
PR 28-OCT-1997; 97US-063540P.
PR 28-OCT-1997; 97US-063541P.
PR 28-OCT-1997; 97US-063544P.
PR 28-OCT-1997; 97US-063564P.
PR 29-OCT-1997; 97US-063734P.
PR 31-OCT-1997; 97US-063870P.
PR 31-OCT-1997; 97US-064103P.
PR 13-NOV-1997; 97US-065311P.
PR 21-NOV-1997; 97US-066120P.
PR 24-NOV-1997; 97US-066466P.
PR 24-NOV-1997; 97US-066772P.
PR 11-DEC-1997; 97US-069335P.
PR 12-DEC-1997; 97US-069425P.
PR 17-DEC-1997; 97US-069870P.
PR 18-DEC-1997; 97US-068017P.
PR 10-MAR-1998; 98US-077450P.
PR 11-MAR-1998; 98US-077632P.
PR 11-MAR-1998; 98US-077649P.
PR 20-MAR-1998; 98US-078886P.
PR 20-MAR-1998; 98US-078939P.
PR 27-MAR-1998; 98US-079664P.
PR 27-MAR-1998; 98US-079786P.
PR 31-MAR-1998; 98US-080107P.
PR 31-MAR-1998; 98US-080194P.
PR 01-APR-1998; 98US-080327P.
PR 01-APR-1998; 98US-080333P.
PR 08-APR-1998; 98US-081049P.
PR 08-APR-1998; 98US-081070P.
PR 09-APR-1998; 98US-081195P.
PR 15-APR-1998; 98US-081838P.
PR 21-APR-1998; 98US-082568P.
PR 21-APR-1998; 98US-082569P.
PR 22-APR-1998; 98US-082704P.
PR 22-APR-1998; 98US-082797P.
PR 28-APR-1998; 98US-083322P.
PR 29-APR-1998; 98US-083495P.
PR 29-APR-1998; 98US-083496P.
PR 29-APR-1998; 98US-083499P.
PR 29-APR-1998; 98US-083559P.
PR 05-MAY-1998; 98US-084366P.
PR 06-MAY-1998; 98US-084414P.
PR 07-MAY-1998; 98US-084639P.
PR 07-MAY-1998; 98US-084640P.
PR 07-MAY-1998; 98US-084643P.
PR 15-MAY-1998; 98US-085579P.
PR 15-MAY-1998; 98US-085580P.
PR 15-MAY-1998; 98US-085582P.
PR 15-MAY-1998; 98US-085700P.
PR 18-MAY-1998; 98US-086023P.
PR 22-MAY-1998; 98US-086392P.
PR 22-MAY-1998; 98US-086486P.
PR 28-MAY-1998; 98US-087098P.
PR 28-MAY-1998; 98US-087208P.
PR 02-JUN-1998; 98US-087609P.
PR 02-JUN-1998; 98US-087759P.
PR 03-JUN-1998; 98US-087827P.
PR 04-JUN-1998; 98US-088025P.
PR 04-JUN-1998; 98US-088028P.
PR 04-JUN-1998; 98US-088029P.
PR 04-JUN-1998; 98US-088033P.
PR 04-JUN-1998; 98US-088326P.
PR 05-JUN-1998; 98US-088167P.
PR 05-JUN-1998; 98US-088202P.
PR 05-JUN-1998; 98US-088212P.
PR 05-JUN-1998; 98US-088217P.
PR 09-JUN-1998; 98US-088655P.
PR 10-JUN-1998; 98US-088722P.
PR 10-JUN-1998; 98US-088738P.
PR 10-JUN-1998; 98US-088740P.
PR 10-JUN-1998; 98US-088811P.
PR 10-JUN-1998; 98US-088824P.
PR 10-JUN-1998; 98US-088825P.
PR 10-JUN-1998; 98US-088826P.
PR 11-JUN-1998; 98US-088861P.
PR 11-JUN-1998; 98US-088863P.
PR 11-JUN-1998; 98US-088876P.
PR 12-JUN-1998; 98US-089090P.
PR 12-JUN-1998; 98US-089105P.
PR 16-JUN-1998; 98US-089512P.
PR 16-JUN-1998; 98US-089514P.
PR 17-JUN-1998; 98US-089538P.
PR 17-JUN-1998; 98US-089598P.
PR 17-JUN-1998; 98US-089653P.
PR 18-JUN-1998; 98US-089908P.
PR 19-JUN-1998; 98US-089952P.
PR 22-JUN-1998; 98US-090246P.
PR 22-JUN-1998; 98US-090252P.
PR 22-JUN-1998; 98US-090254P.
PR 24-JUN-1998; 98US-090429P.
PR 24-JUN-1998; 98US-090435P.
PR 24-JUN-1998; 98US-090444P.
PR 24-JUN-1998; 98US-090461P.
PR 24-JUN-1998; 98US-090535P.
PR 24-JUN-1998; 98US-090540P.
PR 25-JUN-1998; 98US-090676P.
PR 25-JUN-1998; 98US-090678P.
PR 25-JUN-1998; 98US-090688P.
PR 25-JUN-1998; 98US-090690P.
PR 25-JUN-1998; 98US-090694P.
PR 25-JUN-1998; 98US-090695P.
PR 25-JUN-1998; 98US-090696P.
PR 26-JUN-1998; 98US-090862P.
PR 26-JUN-1998; 98US-090863P.
PR 26-JUN-1998; 98US-091010P.
PR 01-JUL-1998; 98US-091359P.
PR 01-JUL-1998; 98US-091544P.
PR 02-JUL-1998; 98US-091478P.
PR 02-JUL-1998; 98US-091486P.
PR 02-JUL-1998; 98US-091626P.
PR 02-JUL-1998; 98US-091628P.
PR 02-JUL-1998; 98US-091632P.
PR 24-JUL-1998; 98US-094006P.
PR 04-AUG-1998; 98US-095282P.
PR 10-AUG-1998; 98US-095998P.
PR 10-AUG-1998; 98US-096012P.
PR 17-AUG-1998; 98US-096757P.
PR 17-AUG-1998; 98US-096766P.
PR 17-AUG-1998; 98US-096867P.
PR 17-AUG-1998; 98US-096891P.
PR 17-AUG-1998; 98US-096897P.
PR 18-AUG-1998; 98US-096949P.
PR 18-AUG-1998; 98US-096959P.
PR 18-AUG-1998; 98US-097022P.
PR 26-AUG-1998; 98US-097952P.
PR 26-AUG-1998; 98US-097954P.
PR 26-AUG-1998; 98US-097955P.
PR 26-AUG-1998; 98US-097971P.
PR 26-AUG-1998; 98US-097974P.
PR 26-AUG-1998; 98US-098014P.
PR 01-SEP-1998; 98US-098716P.
PR 01-SEP-1998; 98US-098723P.
PR 02-SEP-1998; 98US-098803P.
PR 02-SEP-1998; 98US-098821P.
PR 02-SEP-1998; 98US-098843P.

```
PR   09-SEP-1998;   98US-099602P.
PR   10-SEP-1998;   98US-099741P.

  Query Match             4.5%;  Score 94.4;  DB 25;  Length 4640;
  Best Local Similarity   72.9%;  Pred. No. 1.9e-06;
  Matches  137;  Conservative    0;  Mismatches   46;  Indels    5;  Gaps    1;

Qy       1924 TCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTACTGA 1983
              | |||  || |   || ||   |||||   | |   ||   | | ||||||| ||   ||
Db       4423 TATGGCTCCATTTTATTTTATAGTGTAAAGTTGTATTTCCTAAAGTTTGTGTTTTGTCGA 4482

Qy       1984 ACCTGTACTTTGTCTGA-----ATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAA 2038
                | |  |||   |||     | |  ||  |   ||| ||||||||||||||||||||
Db       4483 CAGTATCTTTTAAATGAGTCTTAAAAATAAAGGCATATTGTTCATGTTTAAAAAAAAAAA 4542

Qy       2039 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2098
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       4543 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 4602

Qy       2099 AAAAAAAA 2106
              ||||||||
Db       4603 AAAAAAAA 4610


RESULT 13
ABX98692
ID   ABX98692 standard; cDNA; 4640 BP.
XX
AC   ABX98692;
XX
DT   20-MAY-2003  (first entry)
XX
DE   Novel human secreted and transmembrane protein PRO708 cDNA.
XX
KW   Human; secreted protein; transmembrane protein; cytostatic;
KW   gene Therapy; TNF-Agonist-Alpha; chondrocyte stimulator; tumour;
KW   adrenal tumour; lung tumour; colon tumour; breast tumour;
KW   prostate tumour; rectal tumour; cervical tumour; liver tumour;
KW   gene; ss.
XX
OS   Homo sapiens.
XX
PN   US2003036157-A1.
XX
PD   20-FEB-2003.
XX
PF   02-JUL-2002; 2002US-0188769.
XX
PR   16-SEP-1998;   98WO-US19330.
PR   07-OCT-1998;   98WO-US21141.
PR   01-DEC-1998;   98WO-US25108.
PR   08-MAR-1999;   99WO-US05028.
PR   14-MAY-1999;   99WO-US10733.
PR   02-JUN-1999;   99WO-US12252.
PR   01-SEP-1999;   99WO-US20111.
PR   15-SEP-1999;   99WO-US21090.
PR   01-DEC-1999;   99WO-US28301.
PR   02-DEC-1999;   99WO-US28551.
PR   30-DEC-1999;   99WO-US31274.
PR   05-JAN-2000; 2000WO-US00219.
PR   18-FEB-2000; 2000WO-US04341.
PR   18-FEB-2000; 2000WO-US04342.
PR   22-FEB-2000; 2000WO-US04414.
PR   24-FEB-2000; 2000WO-US05004.
PR   01-MAR-2000; 2000WO-US05601.
PR   02-MAR-2000; 2000WO-US05841.
PR   15-MAR-2000; 2000WO-US06884.
PR   30-MAR-2000; 2000WO-US08439.
PR   17-MAY-2000; 2000WO-US13705.
PR   22-MAY-2000; 2000WO-US14042.
PR   30-MAY-2000; 2000WO-US14941.
PR   02-JUN-2000; 2000WO-US15264.
PR   28-JUL-2000; 2000WO-US20710.
PR   24-AUG-2000; 2000WO-US23328.
PR   08-NOV-2000; 2000WO-US30952.
PR   01-DEC-2000; 2000WO-US32678.
PR   20-DEC-2000; 2000WO-US34956.
PR   28-FEB-2001; 2001WO-US06520.
PR   01-JUN-2001; 2001WO-US17800.
PR   20-JUN-2001; 2001WO-US19692.
PR   29-JUN-2001; 2001WO-US21066.
PR   09-JUL-2001; 2001WO-US21735.
PR   29-AUG-2001; 2001WO-US27099.
PR   18-SEP-1997;   97US-059263P.
PR   18-SEP-1997;   97US-059266P.
PR   17-OCT-1997;   97US-062250P.
PR   21-OCT-1997;   97US-063486P.
PR   24-OCT-1997;   97US-063120P.
PR   24-OCT-1997;   97US-063121P.
PR   28-OCT-1997;   97US-063540P.
PR   28-OCT-1997;   97US-063541P.
PR   28-OCT-1997;   97US-063544P.
PR   28-OCT-1997;   97US-063564P.
PR   29-OCT-1997;   97US-063734P.
PR   31-OCT-1997;   97US-063870P.
PR   31-OCT-1997;   97US-064103P.
PR   13-NOV-1997;   97US-065311P.
PR   21-NOV-1997;   97US-066120P.
PR   24-NOV-1997;   97US-066466P.
PR   24-NOV-1997;   97US-066772P.
PR   11-DEC-1997;   97US-069335P.
PR   12-DEC-1997;   97US-069425P.
PR   17-DEC-1997;   97US-069870P.
PR   18-DEC-1997;   97US-068017P.
PR   10-MAR-1998;   98US-077450P.
PR   11-MAR-1998;   98US-077632P.
PR   11-MAR-1998;   98US-077649P.
PR   20-MAR-1998;   98US-078886P.
PR   20-MAR-1998;   98US-078939P.
PR   27-MAR-1998;   98US-079664P.
PR   27-MAR-1998;   98US-079786P.
PR   31-MAR-1998;   98US-080107P.
PR   31-MAR-1998;   98US-080194P.
PR   01-APR-1998;   98US-080327P.
PR   01-APR-1998;   98US-080333P.
PR   08-APR-1998;   98US-081049P.
PR   08-APR-1998;   98US-081070P.
PR   09-APR-1998;   98US-081195P.
PR   15-APR-1998;   98US-081838P.
PR   21-APR-1998;   98US-082568P.
PR   21-APR-1998;   98US-082569P.
PR   22-APR-1998;   98US-082704P.
PR   22-APR-1998;   98US-082797P.
PR   28-APR-1998;   98US-083322P.
PR   29-APR-1998;   98US-083495P.
PR   29-APR-1998;   98US-083496P.
PR   29-APR-1998;   98US-083499P.
PR   29-APR-1998;   98US-083559P.
PR   05-MAY-1998;   98US-084366P.
PR   06-MAY-1998;   98US-084414P.
PR   07-MAY-1998;   98US-084639P.
PR   07-MAY-1998;   98US-084640P.
PR   07-MAY-1998;   98US-084643P.
PR   15-MAY-1998;   98US-085579P.
PR   15-MAY-1998;   98US-085580P.
PR   15-MAY-1998;   98US-085582P.
PR   15-MAY-1998;   98US-085700P.
PR   18-MAY-1998;   98US-086023P.
PR   22-MAY-1998;   98US-086392P.
PR   22-MAY-1998;   98US-086486P.
PR   28-MAY-1998;   98US-087098P.
PR   28-MAY-1998;   98US-087208P.
PR   02-JUN-1998;   98US-087609P.
PR   02-JUN-1998;   98US-087759P.
PR   03-JUN-1998;   98US-087827P.
PR   04-JUN-1998;   98US-088025P.
```

PR 04-JUN-1998; 98US-088028P.
PR 04-JUN-1998; 98US-088029P.
PR 04-JUN-1998; 98US-088033P.
PR 04-JUN-1998; 98US-088326P.
PR 05-JUN-1998; 98US-088167P.
PR 05-JUN-1998; 98US-088202P.
PR 05-JUN-1998; 98US-088212P.
PR 05-JUN-1998; 98US-088217P.
PR 09-JUN-1998; 98US-088655P.
PR 10-JUN-1998; 98US-088722P.
PR 10-JUN-1998; 98US-088738P.
PR 10-JUN-1998; 98US-088740P.
PR 10-JUN-1998; 98US-088811P.
PR 10-JUN-1998; 98US-088824P.
PR 10-JUN-1998; 98US-088825P.
PR 10-JUN-1998; 98US-088826P.
PR 11-JUN-1998; 98US-088861P.
PR 11-JUN-1998; 98US-088863P.
PR 11-JUN-1998; 98US-088876P.
PR 12-JUN-1998; 98US-089090P.
PR 12-JUN-1998; 98US-089105P.
PR 16-JUN-1998; 98US-089512P.
PR 16-JUN-1998; 98US-089514P.
PR 17-JUN-1998; 98US-089538P.
PR 17-JUN-1998; 98US-089598P.
PR 17-JUN-1998; 98US-089653P.
PR 18-JUN-1998; 98US-089908P.
PR 19-JUN-1998; 98US-089952P.
PR 22-JUN-1998; 98US-090246P.
PR 22-JUN-1998; 98US-090252P.
PR 22-JUN-1998; 98US-090254P.
PR 24-JUN-1998; 98US-090429P.
PR 24-JUN-1998; 98US-090435P.
PR 24-JUN-1998; 98US-090444P.
PR 24-JUN-1998; 98US-090461P.
PR 24-JUN-1998; 98US-090535P.
PR 24-JUN-1998; 98US-090540P.
PR 25-JUN-1998; 98US-090676P.
PR 25-JUN-1998; 98US-090678P.
PR 25-JUN-1998; 98US-090688P.
PR 25-JUN-1998; 98US-090690P.
PR 25-JUN-1998; 98US-090694P.
PR 25-JUN-1998; 98US-090695P.
PR 25-JUN-1998; 98US-090696P.
PR 26-JUN-1998; 98US-090862P.
PR 26-JUN-1998; 98US-090863P.
PR 26-JUN-1998; 98US-091010P.
PR 01-JUL-1998; 98US-091359P.
PR 01-JUL-1998; 98US-091544P.
PR 02-JUL-1998; 98US-091478P.
PR 02-JUL-1998; 98US-091486P.
PR 02-JUL-1998; 98US-091626P.
PR 02-JUL-1998; 98US-091628P.
PR 02-JUL-1998; 98US-091632P.
PR 24-JUL-1998; 98US-094006P.
PR 04-AUG-1998; 98US-095282P.
PR 10-AUG-1998; 98US-095998P.
PR 10-AUG-1998; 98US-096012P.
PR 17-AUG-1998; 98US-096757P.
PR 17-AUG-1998; 98US-096766P.
PR 17-AUG-1998; 98US-096867P.
PR 17-AUG-1998; 98US-096891P.
PR 17-AUG-1998; 98US-096897P.
PR 18-AUG-1998; 98US-096949P.
PR 18-AUG-1998; 98US-096959P.
PR 18-AUG-1998; 98US-097022P.
PR 26-AUG-1998; 98US-097952P.
PR 26-AUG-1998; 98US-097954P.
PR 26-AUG-1998; 98US-097955P.
PR 26-AUG-1998; 98US-097971P.
PR 26-AUG-1998; 98US-097974P.
PR 26-AUG-1998; 98US-098014P.
PR 01-SEP-1998; 98US-098716P.
PR 01-SEP-1998; 98US-098723P.
PR 02-SEP-1998; 98US-098803P.
PR 02-SEP-1998; 98US-098821P.
PR 02-SEP-1998; 98US-098843P.
PR 09-SEP-1998; 98US-099602P.
PR 10-SEP-1998; 98US-099741P.
PR 10-SEP-1998; 98US-099754P.

Query Match 4.5%; Score 94.4; DB 25; Length 4640;
Best Local Similarity 72.9%; Pred. No. 1.9e-06;
Matches 137; Conservative 0; Mismatches 46; Indels 5; Gaps 1;

```
Qy       1924 TCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTACTGA 1983
             | |||  || |   || ||   |||||  | |   ||   | | ||||||| ||   ||
Db       4423 TATGGCTCCATTTTATTTTATAGTGTAAAGTTGTATTTCCTAAAGTTTGTGTTTTGTCGA 4482

Qy       1984 ACCTGTACTTTGTCTGA-----ATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAA 2038
                | |  |||   |||     | |  ||  |   |||  ||||||||||||||||||
Db       4483 CAGTATCTTTTAAATGAGTCTTAAAAATAAAGGCATATTGTTCATGTTTAAAAAAAAAAA 4542

Qy       2039 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2098
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       4543 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 4602

Qy       2099 AAAAAAAA 2106
              ||||||||
Db       4603 AAAAAAAA 4610
```

RESULT 14
ACA05737
ID ACA05737 standard; cDNA; 4640 BP.
XX
AC ACA05737;
XX
DT 29-MAY-2003 (first entry)
XX
DE Human secreted/transmembrane protein (PRO) cDNA #38.
XX
KW Human; gene; ss; secreted and transmembrane protein; PRO; TNF-alpha;
KW tumour necrosis factor alpha; chondrocyte cell; tumour; gene therapy;
KW tissue typing.
XX
OS Homo sapiens.
XX
PN US2003036162-A1.
XX
PD 20-FEB-2003.
XX
PF 12-JUL-2002; 2002US-0194423.
XX
PR 16-SEP-1998; 98WO-US19330.
PR 07-OCT-1998; 98WO-US21141.
PR 01-DEC-1998; 98WO-US25108.
PR 08-MAR-1999; 99WO-US05028.
PR 14-MAY-1999; 99WO-US10733.
PR 02-JUN-1999; 99WO-US12252.
PR 01-SEP-1999; 99WO-US20111.
PR 15-SEP-1999; 99WO-US21090.
PR 01-DEC-1999; 99WO-US28301.
PR 02-DEC-1999; 99WO-US28551.
PR 30-DEC-1999; 99WO-US31274.
PR 05-JAN-2000; 2000WO-US00219.
PR 18-FEB-2000; 2000WO-US04341.
PR 18-FEB-2000; 2000WO-US04342.
PR 22-FEB-2000; 2000WO-US04414.
PR 24-FEB-2000; 2000WO-US05004.
PR 01-MAR-2000; 2000WO-US05601.
PR 02-MAR-2000; 2000WO-US05841.
PR 15-MAR-2000; 2000WO-US06884.
PR 30-MAR-2000; 2000WO-US08439.
PR 17-MAY-2000; 2000WO-US13705.
PR 22-MAY-2000; 2000WO-US14042.

PR 30-MAY-2000; 2000WO-US14941.
PR 02-JUN-2000; 2000WO-US15264.
PR 28-JUL-2000; 2000WO-US20710.
PR 24-AUG-2000; 2000WO-US23328.
PR 08-NOV-2000; 2000WO-US30952.
PR 01-DEC-2000; 2000WO-US32678.
PR 20-DEC-2000; 2000WO-US34956.
PR 28-FEB-2001; 2001WO-US06520.
PR 01-JUN-2001; 2001WO-US17800.
PR 20-JUN-2001; 2001WO-US19692.
PR 29-JUN-2001; 2001WO-US21066.
PR 09-JUL-2001; 2001WO-US21735.
PR 29-AUG-2001; 2001WO-US27099.
PR 26-JUN-1998; 98US-0105413.
PR 07-OCT-1998; 98US-0168978.
PR 06-NOV-1998; 98US-0187368.
PR 07-DEC-1998; 98US-0202054.
PR 03-MAR-1999; 99US-0254311.
PR 14-MAY-1999; 99US-0311832.
PR 14-MAY-1999; 99US-0380137.
PR 25-AUG-1999; 99US-0380138.
PR 25-AUG-1999; 99US-0380139.
PR 25-AUG-1999; 99US-0380142.
PR 18-OCT-1999; 99US-0403297.
PR 12-NOV-1999; 99US-0423844.
PR 22-AUG-2000; 2000US-0644848.
PR 18-SEP-2000; 2000US-0664610.
PR 18-SEP-2000; 2000US-0665350.
PR 08-NOV-2000; 2000US-0709238.
PR 20-DEC-2000; 2000US-0747259.
PR 22-MAR-2001; 2001US-0816744.
PR 10-MAY-2001; 2001US-0854208.
PR 10-MAY-2001; 2001US-0854280.
PR 25-MAY-2001; 2001US-0866028.
PR 05-JUN-2001; 2001US-0874503.
PR 18-JUL-2001; 2001US-0908827.
PR 30-JUL-2001; 2001US-0918585.
PR 06-AUG-2001; 2001US-0924419.
PR 13-AUG-2001; 2001US-0929404.
PR 16-AUG-2001; 2001US-0931836.
PR 28-AUG-2001; 2001US-0941992.
PR 04-SEP-2001; 2001US-0946374.
PR 15-JAN-2002; 2002US-0052586.
XX
PA (GETH) GENENTECH INC.
XX
PI Baker KP, Chen J, Desnoyers L, Goddard A, Godowski PJ, Gurney AL;
PI Pan J, Smith V, Watanabe CK, Wood WI, Zhang Z;
XX
DR WPI; 2003-332039/31.
DR P-PSDB; ABU67443.
XX
PT New secreted and transmembrane PRO polypeptides and nucleic acids,
PT useful in gene therapy, in chromosome and gene mapping, as chromosome
PT markers, in tissue typing, and in chromosome identification -
XX
PS Claim 2; Fig 75; 706pp; English.
XX
CC The invention discloses human nucleic acids encoding secreted and
CC transmembrane (PRO) polypeptides. Also disclosed is an antibody that
CC specifically binds to the PRO polypeptide, a method for stimulating the
CC release of tumour necrosis factor alpha (TNF-alpha) from human blood by
CC contacting the blood a PRO polypeptide, a method for stimulating the
CC proliferation or differentiation of chondrocyte cells by contacting the
CC cells with a PRO polypeptide, a method for detecting the presence of a
CC tumour in a mammal and an oligonucleotide probe derived from any of the
CC PRO nucleotide sequences. The nucleotide sequences are useful as probes,
CC in chromosome and gene mapping, in generating antisense RNA and DNA, in
CC preparing PRO polypeptides by recombinant techniques and in gene therapy
CC (e.g. for replacement of defective gene). The PRO polypeptides are useful
CC as molecular weight markers for protein electrophoresis purposes, for
CC chromosome identification, as chromosome markers, as therapeutic agents,
CC for stimulating the release of TNF-alpha from human blood, for
CC stimulating the proliferation or differentiation of chondrocytes and
CC detecting the presence of a tumour. The PRO polypeptides and nucleic
CC acids may also be used diagnostically for tissue typing. The sequences
CC presented in ACA05700-ACA06004 are the cDNAs encoding the PRO
CC polypeptides of the invention.
XX
SQ Sequence 4640 BP; 1427 A; 955 C; 1026 G; 1232 T; 0 other;

Query Match 4.5%; Score 94.4; DB 25; Length 4640;
Best Local Similarity 72.9%; Pred. No. 1.9e-06;
Matches 137; Conservative 0; Mismatches 46; Indels 5; Gaps 1;

Qy 1924 TCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTACTGA 1983
Db 4423 TATGGCTCCATTTTATTTTATAGTGTAAAGTTGTATTTCCTAAAGTTTGTGTTTTGTCGA 4482

Qy 1984 ACCTGTACTTTGTCTGA-----ATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAA 2038
Db 4483 CAGTATCTTTTAAATGAGTCTTAAAAATAAAGGCATATTGTTCATGTTTAAAAAAAAAA 4542

Qy 2039 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2098
Db 4543 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 4602

Qy 2099 AAAAAAAA 2106
Db 4603 AAAAAAAA 4610

RESULT 15
ABX97781
ID ABX97781 standard; cDNA; 4640 BP.
XX
AC ABX97781;
XX
DT 16-MAY-2003 (first entry)
XX
DE Human PRO polynucleotide #38.
XX
KW Human; PRO; gene; ss; cytostatic; chromosome mapping; gene mapping;
KW protein electrophoresis; tumour necrosis factor-alpha; TNF-alpha; blood;
KW chondrocyte differentiation; chondrocyte proliferation; tumour.
XX
OS Homo sapiens.
XX
PN US2003032102-A1.
XX
PD 13-FEB-2003.
XX
PF 17-JUN-2002; 2002US-0173697.
XX
PR 16-SEP-1998; 98WO-US19330.
PR 07-OCT-1998; 98WO-US21141.
PR 01-DEC-1998; 98WO-US25108.
PR 08-MAR-1999; 99WO-US05028.
PR 14-MAY-1999; 99WO-US10733.
PR 02-JUN-1999; 99WO-US12252.
PR 01-SEP-1999; 99WO-US20111.
PR 15-SEP-1999; 99WO-US21090.
PR 01-DEC-1999; 99WO-US28301.
PR 02-DEC-1999; 99WO-US28551.
PR 30-DEC-1999; 99WO-US31274.
PR 05-JAN-2000; 2000WO-US00219.
PR 18-FEB-2000; 2000WO-US04341.
PR 18-FEB-2000; 2000WO-US04342.
PR 22-FEB-2000; 2000WO-US04414.
PR 24-FEB-2000; 2000WO-US05004.
PR 01-MAR-2000; 2000WO-US05601.
PR 02-MAR-2000; 2000WO-US05841.
PR 15-MAR-2000; 2000WO-US06884.
PR 30-MAR-2000; 2000WO-US08439.
PR 17-MAY-2000; 2000WO-US13705.
PR 22-MAY-2000; 2000WO-US14042.

PR 30-MAY-2000; 2000WO-US14941.
PR 02-JUN-2000; 2000WO-US15264.
PR 28-JUL-2000; 2000WO-US20710.
PR 24-AUG-2000; 2000WO-US23328.
PR 08-NOV-2000; 2000WO-US30952.
PR 01-DEC-2000; 2000WO-US32678.
PR 20-DEC-2000; 2000WO-US34956.
PR 28-FEB-2001; 2001WO-US06520.
PR 01-JUN-2001; 2001WO-US17800.
PR 20-JUN-2001; 2001WO-US19692.
PR 29-JUN-2001; 2001WO-US21066.
PR 09-JUL-2001; 2001WO-US21735.
PR 29-AUG-2001; 2001WO-US27099.
PR 18-SEP-1997; 97US-059263P.
PR 18-SEP-1997; 97US-059266P.
PR 17-OCT-1997; 97US-062250P.
PR 21-OCT-1997; 97US-063486P.
PR 24-OCT-1997; 97US-063120P.
PR 24-OCT-1997; 97US-063121P.
PR 28-OCT-1997; 97US-063540P.
PR 28-OCT-1997; 97US-063541P.
PR 28-OCT-1997; 97US-063544P.
PR 28-OCT-1997; 97US-063564P.
PR 29-OCT-1997; 97US-063734P.
PR 31-OCT-1997; 97US-063870P.
PR 31-OCT-1997; 97US-064103P.
PR 13-NOV-1997; 97US-065311P.
PR 21-NOV-1997; 97US-066120P.
PR 24-NOV-1997; 97US-066466P.
PR 24-NOV-1997; 97US-066772P.
PR 11-DEC-1997; 97US-069335P.
PR 12-DEC-1997; 97US-069425P.
PR 17-DEC-1997; 97US-069870P.
PR 18-DEC-1997; 97US-068017P.
PR 10-MAR-1998; 98US-077450P.
PR 11-MAR-1998; 98US-077632P.
PR 11-MAR-1998; 98US-077649P.
PR 20-MAR-1998; 98US-078886P.
PR 20-MAR-1998; 98US-078939P.
PR 27-MAR-1998; 98US-079664P.
PR 27-MAR-1998; 98US-079786P.
PR 31-MAR-1998; 98US-080107P.
PR 31-MAR-1998; 98US-080194P.
PR 01-APR-1998; 98US-080327P.
PR 01-APR-1998; 98US-080333P.
PR 08-APR-1998; 98US-081049P.
PR 08-APR-1998; 98US-081070P.
PR 09-APR-1998; 98US-081195P.
PR 15-APR-1998; 98US-081838P.
PR 21-APR-1998; 98US-082568P.
PR 21-APR-1998; 98US-082569P.
PR 22-APR-1998; 98US-082704P.
PR 22-APR-1998; 98US-082797P.
PR 28-APR-1998; 98US-083322P.
PR 29-APR-1998; 98US-083495P.
PR 29-APR-1998; 98US-083496P.
PR 29-APR-1998; 98US-083499P.
PR 29-APR-1998; 98US-083559P.
PR 05-MAY-1998; 98US-084366P.
PR 06-MAY-1998; 98US-084414P.
PR 07-MAY-1998; 98US-084639P.
PR 07-MAY-1998; 98US-084640P.
PR 07-MAY-1998; 98US-084643P.
PR 15-MAY-1998; 98US-085579P.
PR 15-MAY-1998; 98US-085580P.
PR 15-MAY-1998; 98US-085582P.
PR 15-MAY-1998; 98US-085700P.
PR 18-MAY-1998; 98US-086023P.
PR 22-MAY-1998; 98US-086392P.
PR 22-MAY-1998; 98US-086486P.
PR 28-MAY-1998; 98US-087098P.
PR 28-MAY-1998; 98US-087208P.
PR 02-JUN-1998; 98US-087609P.
PR 02-JUN-1998; 98US-087759P.
PR 03-JUN-1998; 98US-087827P.
PR 04-JUN-1998; 98US-088025P.
PR 04-JUN-1998; 98US-088028P.
PR 04-JUN-1998; 98US-088029P.
PR 04-JUN-1998; 98US-088033P.
PR 04-JUN-1998; 98US-088326P.
PR 05-JUN-1998; 98US-088167P.
PR 05-JUN-1998; 98US-088202P.
PR 05-JUN-1998; 98US-088212P.
PR 05-JUN-1998; 98US-088217P.
PR 09-JUN-1998; 98US-088655P.
PR 10-JUN-1998; 98US-088722P.
PR 10-JUN-1998; 98US-088738P.
PR 10-JUN-1998; 98US-088740P.
PR 10-JUN-1998; 98US-088811P.
PR 10-JUN-1998; 98US-088824P.
PR 10-JUN-1998; 98US-088825P.
PR 10-JUN-1998; 98US-088826P.
PR 11-JUN-1998; 98US-088861P.
PR 11-JUN-1998; 98US-088863P.
PR 11-JUN-1998; 98US-088876P.
PR 12-JUN-1998; 98US-089090P.
PR 12-JUN-1998; 98US-089105P.
PR 16-JUN-1998; 98US-089512P.
PR 16-JUN-1998; 98US-089514P.
PR 17-JUN-1998; 98US-089538P.
PR 17-JUN-1998; 98US-089598P.
PR 17-JUN-1998; 98US-089653P.
PR 18-JUN-1998; 98US-089908P.
PR 19-JUN-1998; 98US-089952P.
PR 22-JUN-1998; 98US-090246P.
PR 22-JUN-1998; 98US-090252P.
PR 22-JUN-1998; 98US-090254P.
PR 24-JUN-1998; 98US-090429P.
PR 24-JUN-1998; 98US-090435P.
PR 24-JUN-1998; 98US-090444P.
PR 24-JUN-1998; 98US-090461P.
PR 24-JUN-1998; 98US-090535P.
PR 24-JUN-1998; 98US-090540P.
PR 25-JUN-1998; 98US-090676P.
PR 25-JUN-1998; 98US-090678P.
PR 25-JUN-1998; 98US-090688P.
PR 25-JUN-1998; 98US-090690P.
PR 25-JUN-1998; 98US-090694P.
PR 25-JUN-1998; 98US-090695P.
PR 25-JUN-1998; 98US-090696P.
PR 26-JUN-1998; 98US-090862P.
PR 26-JUN-1998; 98US-090863P.
PR 26-JUN-1998; 98US-091010P.
PR 01-JUL-1998; 98US-091359P.
PR 01-JUL-1998; 98US-091544P.
PR 02-JUL-1998; 98US-091478P.
PR 02-JUL-1998; 98US-091486P.
PR 02-JUL-1998; 98US-091626P.
PR 02-JUL-1998; 98US-091628P.
PR 02-JUL-1998; 98US-091632P.
PR 24-JUL-1998; 98US-094006P.
PR 04-AUG-1998; 98US-095282P.
PR 10-AUG-1998; 98US-095998P.
PR 10-AUG-1998; 98US-096012P.
PR 17-AUG-1998; 98US-096757P.
PR 17-AUG-1998; 98US-096766P.
PR 17-AUG-1998; 98US-096867P.
PR 17-AUG-1998; 98US-096891P.
PR 17-AUG-1998; 98US-096897P.
PR 18-AUG-1998; 98US-096949P.
PR 18-AUG-1998; 98US-096959P.
PR 18-AUG-1998; 98US-097022P.
PR 26-AUG-1998; 98US-097952P.
PR 26-AUG-1998; 98US-097954P.
PR 26-AUG-1998; 98US-097955P.
PR 26-AUG-1998; 98US-097971P.

PR 26-AUG-1998; 98US-097974P.
PR 26-AUG-1998; 98US-098014P.
PR 01-SEP-1998; 98US-098716P.
PR 01-SEP-1998; 98US-098723P.
PR 02-SEP-1998; 98US-098803P.
PR 02-SEP-1998; 98US-098821P.
PR 02-SEP-1998; 98US-098843P.
PR 09-SEP-1998; 98US-099602P.
PR 10-SEP-1998; 98US-099741P.
PR 10-SEP-1998; 98US-099754P.
PR 10-SEP-1998; 98US-099763P.
PR 10-SEP-1998; 98US-099812P.

Query Match 4.5%; Score 94.4; DB 25; Length 4640;
Best Local Similarity 72.9%; Pred. No. 1.9e-06;
Matches 137; Conservative 0; Mismatches 46; Indels 5; Gaps 1;

```
Qy       1924 TCTGGTCCCCTACCATGTTGATGTGTACGATAGGCGTTGAAAGATTTTGTGTATTACTGA 1983
             | |||  || |   || ||   |||||   | |   ||   | | ||||||| ||   ||
Db       4423 TATGGCTCCATTTTATTTTATAGTGTAAAGTTGTATTTCCTAAAGTTTGTGTTTTGTCGA 4482

Qy       1984 ACCTGTACTTTGTCTGA-----ATAGTTATGGCACTATGATTCATGTTTAAAAAAAAAAA 2038
                | |  |||   |||      | |  ||  |   |||  ||||||||||||||||||||
Db       4483 CAGTATCTTTTAAATGAGTCTTAAAAATAAAGGCATATTGTTCATGTTTAAAAAAAAAAA 4542

Qy       2039 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 2098
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db       4543 AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 4602

Qy       2099 AAAAAAAA 2106
              ||||||||
Db       4603 AAAAAAAA 4610
```

Search completed: September 24, 2003, 02:08:55
Job time : 593 secs